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COURSE AND MANAGEMENT OF MYASTHENIA GRAVIS

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Since myasthenia gravis is a disease that is subject spontaneous remissions and exacerbations, it is diffi- lt to evaluate the effect of procedures that are intended alter the course of this disease. There has been con- derable difference of opinion concerning the effect of ymectomy[1] and of irradiation of the thymus.[2] Pre- minary observations on the effect of thymectomy sug- sted that the rate and degree of remission following is operation were greater than would be expected to ccur spontaneously.[3] Because 12 years have elapsed nce these observations were begun, a review of this oblem, in which the course of patients who have had ymectomy or irradiation of the thymus are compared ith patients of comparable severity of illness who have d neither procedure, seems appropriate.

A total of 202 patients with generalized myasthenia avis have been studied in the Johns Hopkins Hospital om 1 to 34 years, the average being 8 years. Sixty-one er cent of these patients were women. Onset of the dis- se was at a lower age in the women, whose average e was 28, than in the men, whose average age was 43 onset. Of 27 patients in whom the disease began before e age of 17, 23 were female.

COURSE AND REMISSION

It is well known that the course of myasthenia gravis quite variable. Approximately one-fourth of the pa- ents studied (46) have had complete or nearly com- lete remission of their generalized myasthenia gravis t some time during its course, as manifested by complete r nearly complete disappearance of signs and symptoms f the disease for at least six months. Forty-two patients ave had only one remission; four patients have had etween two and four. The length of the remissions has een variable but has been as long as 17 years and has veraged 4.6 years. Approximately one-third of the emissions began during the first half year after onset of ymptoms, and one-half began during the first year. The average time interval between onset of the disease and remission was four years.

The administration of neostigmine bromide did not appear to influence the incidence or duration of remission. During the first half year after onset of the disease almost all of the remissions began while the patients were not receiving neostigmine; after this time most of the remissions began while the patients were receiving the drug. But this fact merely reflects the time after onset of the disease that drug administration is ordinarily begun for symptomatic relief. The average length of therapy with neostigmine was 2.7 years. The average duration of remission was approximately the same in patients who had taken neostigmine as in those who had received none, and it was about the same in patients whose remission began early in the disease as in those whose remission began late.

Thirty-two per cent of the patients with generalized myasthenia gravis died of the disease between 3 months and 24 years after onset, the average being 6 years (table 1). During the course of the disease these patients who died had only one-third the incidence of spontaneous remissions as the patients who are still alive and who have been followed for only a slightly longer period of time (8 years). Thirteen per cent of the total number of patients are in a complete or nearly complete remission at the present, 1 to 34 (average 8) years after onset of the disease, 25% have improved to a moderate degree, 20% are unchanged, and 10% have become worse. In general, the disease tended to run a more prolonged course in women, and the female patients have had a somewhat lower mortality rate than the male.

THYMECTOMY AND IRRADIATION OF THYMUS

Forty-four patients, 19 men and 25 women, were subjected to thymectomy 2 to 12 (average 6) years ago (table 2). The average severity of disease at the time of operation was slightly greater than in the other pa-

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[1] (a) Blalock, A.; Harvey, A. M.; Ford, F. F., and Lilienthal, J. L., Jr.: The Treatment of Myasthenia Gravis by Removal of the Thymus Gland: reliminary Report, J. A. M. A. **117**: 1529 (Nov. 1) 1941. (b) Blalock, A.: Thymectomy in Treatment of Myasthenia Gravis, J. Thoracic Surg. **13**: 316, 944. (c) Harvey, A. M.: Some Preliminary Observations on the Clinical Course of Myasthenia Gravis before and after Thymectomy, Bull. New York cad. Med. **24**: 505, 1948. (d) Keynes, G.: The Results of Thymectomy in Myasthenia Gravis, Brit. M. J. **2**: 611, 1949. (e) Viets, H. R.: Thymectomy n Myasthenia Gravis, ibid. **1**: 139, 1950. (f) Eaton, L. M., and Clagett, O. T.: Thymectomy in the Treatment of Myasthenia Gravis, J. A. M. A. **142**: 63 (April 1) 1950.

[2] McEachern, D.: The Thymus in Relation to Myasthenia Gravis, Medicine **22**: 1, 1943. Viets, H. R.: Present Status of Myasthenia Gravis, Arch. eurol. & Psychiat. **47**: 859, 1942.

[3] Footnotes 1*a*, *b*, and *c*.

tients with myasthenia who were hospitalized but who did not have thymectomy or irradiation. The average duration of the disease at the time of operation was 3 years, and one-third of the patients were operated on during the first year of their illness. The average age at the time of operation was 37 years for the male patients and 29 for the female. The average duration of neostigmine therapy prior to operation was less than a year and a half. The course of the patients who had thymectomy performed has been, in general, only slightly better than the course of those who had neither thymectomy nor irradiation. Approximately the same proportion of patients have died in each group, and the proportion of patients who have had remissions is also similar. A slightly higher proportion, particularly of the female patients, have improved, and fewer patients have become worse since thymectomy, but the difference is disappointingly small. The course of the female patients after thymectomy has been slightly better than that of the male, but this is also true of the patients who were not operated on. The incidence of improvement following thymectomy has been greater in young female or male patients than in older patients, but this, again, is also true of the patients who were not operated on, and there does not appear to be any striking difference between the two groups.

Table 1.—*Course of 202 Patients with Generalized Myasthenia Gravis*

	No. of Patients	Age at Onset, Yr. (Avg.)	Duration of Myasthenia Gravis, Yr. (Avg.)	In Remission, %	Improved, %	Unchanged, %	Worse, %	Dead, %
Male	79	42	7.2	14	20	18	10	38
Female	123	28	8.8	12	28	22	11	28
Total or Average	202	33	8.2	13	25	20	10	32

Forty patients have had irradiation of the thymic region with about 2,000 r. A somewhat higher proportion of these patients have improved since irradiation, and a smaller proportion have died, but, on the other hand, fewer have gone into complete remission and the difference from the control group is not striking (table 2).

Table 2.—*Effect of Thymectomy and Irradiation of Thymus on Course of Myasthenia Gravis*

Sex	Procedure	No. of Patients	Duration of Myasthenia Gravis, Yr. (Avg.)	In Remission, %	Improved, %	Unchanged, %	Worse, %	Dead, %
Male								
	None	41	7.2	17	12	12	15	44
	Thymectomy	19	7.2	22	16	21	0	42
	Irradiation	19	7.2	0	42	26	10	21
Female								
	None	77	9.0	14	22	22	12	30
	Thymectomy	25	9.7	12	36	24	0	28
	Irradiation	21	6.8	5	38	19	19	19

In most of the patients who improved after thymectomy or irradiation, improvement began within several weeks after the procedure. In several patients improvement was dramatic and has been maintained for many years; however, in a larger number of patients improvement did not occur or was transient. It is difficult to know to what extent beneficial effects that followed either procedure may be attributed to the procedure itself, to concomitant encouragement of the patient or to other psychological effects of a treatment that is intended to alter the course of the disease and to which subsequent spontaneous improvement would be attributed.

THYMIC HYPERPLASIA AND THYMOMA

Nine of the 44 patients who had their thymus removed were found to have thymomas. The others had varying degrees of hyperplasia of the thymus without tumor formation, except for five patients who had what was regarded as a normal thymus for their age and two patients who had no detectable thymus in the fatty tissue that was removed. Of the nine patients who had thymomas removed, six have died of myasthenia gravis. Four other patients who were not operated on and who had a rapid, fulminating course terminating in death were found at post mortem to have thymomas. It would appear from these observations that myasthenic patients who have thymomas are more likely to have a severer form of the disease and a poorer prognosis, regardless of whether thymectomy is performed. However, two of the patients who are still alive and who have had a relatively benign course of many years' duration have roentgenographic evidence of a rounded mass in the anterior mediastinum that very likely is a thymoma. One of the two patients who had no detectable thymus tissue removed at operation has had progressive and moderate improvement in his myasthenia gravis during the seven years that have elapsed since operation, and the other has improved slightly.

Table 3.—*Course of Forty-Eight Patients with Localized Ocular Myasthenia Gravis*

	No. of Patients	Age at Onset, Yr. (Avg.)	Duration of Myasthenia Gravis, Yr. (Avg.)	In Remission, %	Improved, %	Unchanged, %	Worse, %	Dead, %
Male	26	40	8.3	12	15	65	8	0
Female	22	29	8.8	36	9	50	5	0
Total or Average	48	85	8.5	23	13	58	6	0

LOCALIZED OCULAR MYASTHENIA GRAVIS

Forty-eight patients in the group studied have had myasthenia gravis localized to the extraocular muscles during their entire period of observation (except, in most instances, for concomitant weakness of the orbicularis oculi) (table 3). This is one-fourth the number of patients with generalized myasthenia gravis who were seen. In contrast to the higher incidence of generalized myasthenia in women, localized ocular myasthenia was commoner in men. In both groups of patients the average age of onset was higher in men. The patients with ocular myasthenia have been followed from 1 to 41 years, the average being 8½ years, without any evidence of extension of the disease. In most, the disease has been relatively unchanged since onset, and in almost all the others some degree of improvement has occurred during the period of observation, with about one-fourth being in remission at the present time. Two of the patients with ocular myasthenia had thymectomy performed seven years ago, and three had irradiation of the thymus, without any discernible effect on their disease.

EXTENSION OF LOCALIZED OCULAR MYASTHENIA GRAVIS

When a patient who has localized ocular myasthenia gravis is examined, the question arises as to the likelihood of extension of the disease to other muscles. Examination of the course of the 202 patients with generalized myasthenia gravis is of interest in this regard. Of these 202 patients, generalized symptoms developed in 40% within 1 month after onset, but 34% had only ocular manifestations for 1 or more months after onset, 15% had their initial symptoms confined to the extremities for this period, and 11% had only bulbar symptoms during this period (table 4). In 69 patients generalized myasthenia gravis developed after they had had localized ocular myasthenia between 1 month and 24 years. Extension of the disease occurred after 1 to 6 months of ocular myasthenia in over half of these patients and after 1 to 12 months in over three-fourths. In only 11% of the patients was there extension of the disease after 2 to 5 years of localized ocular myasthenia, and there was extension of the disease in the same proportion of patients after 6 to 24 years. Therefore, a patient who has had localized ocular myasthenia for more than two years probably has a good chance of not having further extension of the disease, though in a proportion of such patients generalized myasthenia gravis will eventually develop.

TABLE 4.—*Signs and Symptoms During First Month of Generalized Myasthenia Gravis*

	No. of Patients	Generalized, %	Ocular Only, %	Extremities Only, %	Bulbar Only, %
Male	79	43	36	11	10
Female	123	38	32	10	20
Total or Average	202	40	34	11	15

MANAGEMENT OF GENERALIZED MYASTHENIA GRAVIS

The management of patients with generalized myasthenia gravis still relies heavily on neostigmine. Careful administration of one of the stronger and partly irreversible anticholinesterase compounds, such as tetraethylpyrophosphate (TEPP) [4] or octamethyl pyrophosphoramide (OMPA),[5] results, in most patients, in more sustained strength and better endurance than is possible with neostigmine, but the maximum strength attainable with any of these drugs, or with their combination, is approximately the same. Patients who show little gain in strength after large doses of neostigmine bromide are helped but little by TEPP or OMPA or by an even more potent organic phosphate anticholinesterase compound that has recently been studied. The organic phosphate anticholinesterase agents have the disadvantage that excessive doses may result in weakness much more readily than in the case of neostigmine. In addition, OMPA has the disadvantage of having a latent period of several hours before the action of any given dose is manifest. The latent period is reflected by the time interval between administration of this compound and depression of cholinesterase activity of the plasma and red blood cells and is apparently due to the time interval required for conversion of OMPA, which does not itself have anticholinesterase activity, to an anticholinesterase compound of unknown constitution, presumably by the liver. The regulation of myasthenic patients receiving OMPA is slower and more difficult than is the case with TEPP, and this tends to outweight to some extent the advantages that OMPA has over TEPP in relation to its greater stability in solution and its less marked central neural effects.

When the muscles of respiration and of swallowing are seriously affected by myasthenia gravis and do not respond adequately to neostigmine, use of the respirator and of tracheotomy have become lifesaving. While many patients die in the respirator because of respiratory obstruction or of other causes, which are not clear, some have been kept alive in the respirator for as long as 6 to 12 months. Four such patients subsequently have been able to leave the respirator for several months, and one has had a moderate remission that has enabled her to return to full-time household duties for the past two years. This example emphasizes that the myasthenic process may improve spontaneously, even after it has reached a very severe stage, and emphasizes the need for careful management of the patient through every crisis, in the hope that some degree of spontaneous improvement may occur. The occurrence of spontaneous improvement in some patients who have been through a severe myasthenic episode illustrates the difficulty that exists in evaluating the occurrence of improvement following thymectomy, which is frequently followed by several days of increased weakness and increased requirement for neostigmine.

Since it does not seem to be possible to influence the course of myasthenia gravis in a predictable manner by means of thymectomy or of irradiation of the thymus, and since even the most potent anticholinesterase compounds available have very definite limitations in situations in which the need for help is greatest, namely in patients who are responding poorly to massive doses of neostigmine, other approaches to this problem must be sought. The most promising lines of investigation seem to be study of the relation of myasthenia gravis to the glands of internal secretion and study of the underlying defect in neuromuscular function. With regard to the former it is of interest that exacerbation of the disease may occur prior to the onset of the menstrual period, following parturition, or following the administration of thyroid hormone, of corticotropin (ACTH), or of cortisone.[6] With regard to the latter it is of interest that the defect in neuromuscular conduction, which is characteristic of myasthenia, can be corrected transiently by the intra-arterial injection of an appropriate amount of acetylcholine,[7] the presumed mediator of neuromuscular conduction. This fact suggests that the defect in this disease may be related to either deficient synthesis or release of acetylcholine at the neuromuscular junction or to diminished sensitivity of the receptor substances to this compound. Since preliminary observations indicate that most myasthenic subjects have normal reactivity to acetylcholine,[7] the available evidence seems to support the possibility of deficient synthesis or release of this compound and to emphasize the need for more intensive study of the acetylcholine cycle in voluntary muscle.

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[4] Grob, D., and Harvey, A. M.: Observations on the Effects of Tetraethyl Pyrophosphate (TEPP) in Man, and on Its Use in the Treatment of Myasthenia Gravis, Bull. Johns Hopkins Hosp. **84**: 532, 1949.

[5] Rider, A. J., and others: Treatment of Myasthenia Gravis with Octamethyl Pyrophosphoramide: Preliminary Report, J. A. M. A. **145**: 967 (March 31) 1951.

[6] Grob, D., and Harvey, A. M.: Effect of Adrenocorticotropic Hormone (ACTH) and Cortisone Administration in Patients with Myasthenia Gravis and Report of Onset of Myasthenia Gravis During Prolonged Cortisone Administration, Bull. Johns Hopkins Hosp. **91**: 124, 1952.

[7] Grob, D.; McKusick, V. A., and Harvey, A. M.: To be published.

SUMMARY

Of 202 patients with generalized myasthenia gravis who have been followed in the Johns Hopkins Hospital for 1 to 34 (average 8) years, 32% have died within an average of 6 years after onset, 13% are in complete or nearly complete remission, 25% have improved to a moderate degree, 20% are unchanged, and 10% have become worse. One-fourth of the patients have had complete or nearly complete remission of their disease at some time during their course, with the average length of remission being 4.6 years.

The course of 44 patients who were subjected to thymectomy and of 40 patients who had irradiation of the thymus was, in general, only slightly better than the course of 118 patients who had neither procedure. Fifteen patients had a thymoma. Ten of these patients had a rapid, fulminating course terminating in death, regardless of whether thymectomy was performed.

When localized ocular myasthenia gravis became generalized, it usually did so within the first year of the disease. The majority of patients who have had localized ocular myasthenia for more than one year have not had further extension of the disease during a period of observation of 1 to 41 (average 8½) years. The maximum strength attainable with tetraethylpyrophosphate (TEPP), octamethyl pyrophosphoramide (OMPA), or neostigmine bromide, or with their combination, has been approximately the same, but TEPP or OMPA have provided somewhat more sustained strength and better endurance than neostigmine bromide in most patients.

MECHANICAL ASPECTS AND SURGICAL MANAGEMENT OF STERILITY IN MEN

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This paper is concerned with a study of 123 patients who had complete azoospermia and in whom either exploration of the scrotal content or corrective surgery was performed. These patients were, of course, selected from a larger group of persons seeking the cause and cure of their sterility. Some of these patients were seen as long as 33 years ago and some during the past few months.

CAUSES OF STERILITY

Mechanical obstruction or lack of continuity of the vasoepididymal ductal system is the result of (1) incomplete or improper development of the ductal system itself, (2) obstruction in the epididymis or in the vas as a result of postinflammatory constriction and occlusion of the lumen or the ejaculatory ducts, and (3) inadvertent or purposeful division of the vasa.

The records show that, in these 123 patients, azoospermia, as nearly as it could be defined, was due to many factors. 1. Bilateral congenital absence of the epididymis caused sterility in two patients. 2. Bilateral failure of anatomic union between the vas and the epididymis caused it in four patients. 3. Unilateral atrophy of testis (postmumps orchitis) with congenital absence of the epididymis and vas on the side of the normal testis caused it in two patients. 4. Bilateral absence of both vasa with anomalies of the epididymis was the cause in three patients. 5. Previous epididymectomy on one side without union of the vas and epididymis on the other side resulted in sterility in one patient. 6. Inadvertent, bilateral surgical ligation of the vasa deferentia during operation to repair inguinal hernia or correction of hydrocele and/or varicocele caused it in seven patients. 7. Surgical division of the vasa deferentia for purposes of sterilization had been performed in 35 patients. 8. Sterility followed bilateral vasostomy with injection of the vas (after the method of Belfield) in eight patients. 9. Sixty-one patients were sterile because of previous bilateral epididymitis, the exciting cause having been either the gonococcus or some so-called nonspecific, pyogenic organism.

Congenital maldevelopments of the vasoepididymal tract have received scant attention in both the anatomic and urological literature. I am convinced from my own experience that these anomalies are much commoner than has previously been supposed. Michelson in a recent report states that, in a series of over 2,100 patients with subnormal semen, diagnosis of obstruction of the duct was made in 5%. In this group, he discovered unilateral maldevelopment of the vasoepididymal duct in 3 patients and bilateral maldevelopment in 17 patients. This is by far the largest personal observation of these anomalies ever recorded clinically.

It should be emphasized that in my study there was never any evidence found to suggest that obstruction of the vasoepididymal duct system, in itself, was the cause of pathological changes in the structure or function of the testis. When a pathological process in the testis is associated with ductal blockage, it is caused by some other systemic or local disease.

The pathological change usually consists of an obstructive lesion composed of fibrous tissue, the areas being single or multiple, either confined to the lumen of the vas in its scrotal or inguinal portion or, more commonly, to the lower portion of the globus minor and the most proximal portion of the vas. The area of obstruction in the vas becomes a solid cord of fibrous tissue,

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with no evidence whatsoever of an epithelial lumen. The sheath surrounding the vas is often markedly thickened and contains dilated lymphatic and venous channels.

SURGICAL CORRECTION

In contemplation of the possibility of surgical correction of azoospermia, a very careful history of the underlying problem should be obtained together with an investigation of the psychic elements concerned with the sterile marriage before any optimistic outlook as to improvement is offered. Testicular biopsy may be indicated, but in most instances the greater knowledge that may be obtained by scrotal exploration and direct examination is preferred.

Operation to relieve vasoepididymal obstruction is indicated only in the presence of a normally functioning testicle. Preoperatively the condition of the testis can be accurately diagnosed only by palpation and testicular biopsy. The site and extent of obstruction in the ductal system can only be demonstrated after scrotal and inguinal exploration. Occasionally urethrascopic examination with inspection or calibration of the ejaculatory ducts is indicated.

A large number of operations for the correction of sterility have been described in the literature. In the main, these operations may be divided into four groups: those for (1) union or anastomosis of the vas and the epididymis; (2) anastomosis of the vas with individual epididymal or testicular tubules; (3) anastomosis of the vas deferens to a spermatocele; and (4) re-union of the cut ends of the vasa for reestablishment of luminal integrity. Variations of these procedures are encountered when one vas is anastomosed to the epididymis on the opposite side of the scrotum.

I would like to mention another method I have devised recently that is, up to now, unpublished. If complete occlusion of the distal portions of both vasa precludes any possibility of success by the methods already mentioned, the free and cut ends of the vasa may be brought into midline of the scrotum and then allowed to empty continuously into an inverted skin pouch. The purpose of this procedure is the creation of a reservoir from which material can be obtained for repeated attempts at artificial insemination.

Martin[1] reported a method of laterolateral anastomosis of the vas into the globus major of the epididymis. After this, a number of modifications of this procedure resulted. The persons most directly connected with these are Fuller, Hagner,[2] Quinby,[3] McKenna,[4] Bogolyuboss, and, more recently, Michelson[5] and myself.[6] The technique varied largely in the choice of suture material; some use silk, some horse hair, human hair, silver wire, stainless steel, or nonabsorbable surgical suture. The principles of the operation, in most instances, are the same.

POSTOPERATIVE FOLLOW-UP

Postoperative follow-up observations in this work are often difficult and analysis of the results unsatisfactory. Bayle[7] has recently described a series of 103 operations in which epididymodeferent duct anastomosis was performed in 72 instances. He states that 36 patients had a successful result and that 23 of these brought about pregnancy. Busse[8] followed 13 patients after epididymovas anastomosis and found living spermatozoa in 6. In five of the successful operations a nonabsorbable surgical suture splint was used; without such a splint, there was one successful operation and six failures.

My results in epididymovas anastomosis have not been so encouraging as those mentioned above. Of the 61 patients in whom there was sufficiently hopeful indication for success to warrant the performance of bilateral or unilateral epididymovas anastomosis, in only 23 of these could it be said that a completely satisfactory follow-up was recorded. Fourteen of these 23 had normal appearing spermatozoa in the ejaculate on repeated examinations. Five of these men were said to effect pregnancy. A cross anastomosis was done on five patients, and two of these were successful.

My records suggest that there was reestablishment of exit of spermatozoa after epididymovas anastomosis in about 20% of the patients, but these records further indicate that actual fertility was restored in not more than 10%. It is obvious that follow-up of these patients, even though they are under fairly good control, lacks authenticity and accuracy because of the many aspects of the problem.

In the seven patients in whom inadvertent surgical ligation had been done, three had a completely successful reanastomosis. A proven pregnancy, with a full term healthy child followed in one instance. Two of the patients in whom the operation was unsuccessful were operated on a second time but in neither was the outcome successful.

Prior to 1945, re-union of the vasa was performed in 14 men who had previously been purposely sterilized by bilateral vas resection. In nine of these patients the outcome was successful as evidenced by a careful series of follow-up examinations over a period of from 2 to 15 years. Since 1947, I have seen 24 additional patients who had undergone purposeful bilateral vas ligation or resection. All of these were operated on with the following results.

In eight patients, resection of the vasa had been done so close to the globus minor of the epididymis that satisfactory re-union of actual vasal luminas was not possible. In each of these patients, an attempt was made to unite the proximal, tortuous portion of the epididymis to the vas proper. In two of these patients, sperm were subsequently found in the ejaculate. The material was unsatisfactory in number, shape, and motility of the sperm.

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[2] Hagner, F. R.: Sterility in the Male, Surg., Gynec. & Obst. **52**: 330 (Feb.) 1931; Operative Treatment of Sterility in the Male, J. A. M. A. **107**: 1851 (Dec. 5) 1936.

[3] Quinby, W. C.: Sterility in the Male: Its Operative Treatment When Due to Bilateral Epididymitis, Boston M. & Surg. J. **155**: 539, 1906.

[4] McKenna, C. M.: Short Circuit of the Vas Deferens, J. A. M. A. **64**: 2127 (June 26) 1915.

[5] Michelson, L.: Vasoepididymal Ductal Obstruction, Mod. Med. **21**: 96 (May 15) 1953.

[6] O'Conor, V. J.: Anastomosis of Vas Deferens After Purposeful Division for Sterility, J. A. M. A. **136**: 162 (Jan. 17) 1948; J. Urol. **59**: 229 (Feb.) 1948.

[7] Bayle, H.: Masculine Sterility, Latero-Lateral Epididymo-Deferens Anastomosis in Azospermia by Obliteration: Statistics in 95 Surgically Explored Cases, Urol. & Cutan. Rev. **54**: 129 (March) 1950.

[8] Busse, E.: Reunion of Vas Deferens After Surgical Sterilization, Deutsche Gesundh. **5**: 330, 1950.

One of these patients has become azoospermatic again. Pregnancy did not result from either patient with sperm in the ejaculate.

The remaining 16 patients were found to have a reasonably satisfactory anatomic condition to permit vas re-union. This situation prevailed bilaterally in 12 and unilaterally in four patients. Of this group, 10 patients have had what appears to be a completely successful result. By this is meant that spermatozoa have been repeatedly found in numbers above 20 million per cubic centimeter with apparently normal morphology and motility. In two of the remaining six of this group, sperm were found over a period of six months but, subsequently, disappeared completely from the ejaculate. Both of these patients were operated on a second time, and neither obtained a successful result on second attempt. In the other four patients, no sperm were ever demonstrated in the ejaculate after reanastomosis, even though testicular biopsy and fresh material from the cut end of the vas had shown normal findings at the time of operation. None of these four patients has submitted to a second attempt at surgical correction.

Of the eight patients with blockage after vasostomy only one attained success. This patient has been followed for 27 years. His wife never became pregnant.

Despite the reports of a number of observers as to the frequency with which obstruction of the ejaculatory duct is the cause of sterility, none of the patients studied recently have had this lesion, and those, in whom an unsatisfactory surgical result has been obtained, have all been subjected to special examination using the endoscope designed by Herbst and Merricks for this purpose.

I would like to call attention to the idea of an inverted skin pouch in the scrotum in which the vasa can be placed for continuous drainage. This material has been successfully used in one of the three patients in whom this was done. In another instance, a pregnancy was said to occur, but a miscarriage occurred during the fourth month. This procedure could be utilized in instances in which normal ejaculation is impossible, as in paraplegics or after prostatic resection.

SUMMARY AND CONCLUSIONS

The mechanical causes of sterility in men, as found in a series of 123 patients subjected to surgical exploration, are reviewed. The different procedures that have been used in an attempt to reestablish a satisfactory channel for the passage of sperm have been thoroughly investigated, and the results are analyzed as carefully as possible.

The results of epididymovas anastomosis indicate a restoration of possible fertility in about 20%. Reanastomosis of the vasa, after prior purposeful division, is followed by a high percentage of success, if other complicating factors are not present. The results reported suggest that 70% of these persons have a reestablishment of the lumen.

While the results obtained result in both pessimistic and optimistic opinion, continued and more widespread work along these lines seems warranted in the hope of restoring fertility to more of these patients.

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ENDOCRINE ASPECTS OF INFERTILITY IN MEN

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It is clear that the development of the fertile testicle depends primarily on its ability to respond to stimulation, on the production of gonadotrophic hormones by the pituitary to provide that stimulation, and on the existence of intact neurohumoral pathways from the hypothalamus to ensure that production and liberation of the gonadotrophic hormones take place. The principal endocrine factors in infertility in men are, therefore, likely to be associated with disorders of this hypothalamic-pituitary-gonadal axis.

Whether extra-axial endocrine factors play an important part in the etiology of infertility in men is a matter of some interest, though to my knowledge there is little reliable clinical or experimental evidence concerning the effect of other endocrine glands on the components of the hypothalamic-pituitary-gonadal axis. Diabetes, for instance, is sometimes accompanied by impotence, but is a diabetic man otherwise inclined to be infertile? Meaker in 1934 thought so, but is there any modern evidence to judge from? Women with Addison's disease sometimes become pregnant; are men with Addison's disease infertile? Few studies using urinary follicle-stimulating hormone estimations, testicular biopsy, or analyses of sperm pictures have been carried out on men with Addison's disease, so far as I am aware. Infertile couples are often treated with thyroid extract. Is this treatment empirical? Or do infertile men commonly show signs of hypothyroidism as demonstrated by basal metabolic rate, protein-bound iodine, or radioactive iodine studies? In some experimental animals, such as rabbits, thyroidectomy or administration of antithyroid drugs leads to testicular degeneration, and it is suggested that the induction of a state of thyroid overactivity improves the motility and density of sperms. Is there any evidence that this is so in the human man?

Since infertility in men is our subject, we must confine the discussion to those conditions in which infertility is the presenting complaint. In a man with a suprasellar cyst caused by a craniopharyngioma, the features of the extremely rare condition of Fröhlich's syndrome may be revealed, namely, those classical signs of hypothalamic involvement, obesity, stunting of growth, sexual infantilism, and possibly diabetes insipidus, and he may incidentally be infertile. In a man with Laurence-Moon-Biedl syndrome other congenital abnormalities, such as retinitis pigmentosa or polydactyly, may be revealed in

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From the Chelsea Hospital for Women.

Read in the Symposium on Fertility before the Section on Urology at the 102nd Annual Meeting of the American Medical Association, New York, June 2, 1953.

addition to the hypothalamic tetrad. He also will, incidentally, be infertile. One expects to find those clinical rarities elsewhere than at a fertility clinic. A panhypopituitary dwarf with short, though symmetric, stature, absence of body hair, and lowered basal metabolism will also have immature genitalia and will be infertile. Probably his diminutive size will have caused concern previously, and he is likely to be unmarried. The eunuchoid with primary panhypogonadism may already be receiving substitution therapy in the form of testosterone implants, but the therapy will be to help him achieve manhood rather than parenthood. Even the youth with gynecomastia caused by the Klinefelter syndrome will become embarrassed and concerned about his breast development before it has been discovered that he is infertile. Although there are conditions affecting the hypothalamic-pituitary-gonadal axis that give rise to infertility in men, the conditions that interest us most are those that cause a physically normal and healthy husband to go to a fertility clinic where he is told, to his horrified surprise, that his aspermia or defective spermatogenesis is the reason he and his wife have so far failed to have a child.

TRANSIENT INFERTILITY

Before going any further, we must bear in mind the possibility of transient infertility from which spontaneous recovery may take place without the aid of any specific or endocrine therapy. A good example is the transient infertility that may follow an acute febrile illness. It is difficult to say which component of the axis is affected. Another example is malnutritional sexual failure, such as was experienced by men in Japanese and other prisoner-of-war camps in whom the libido was awakened with the food parcels and in whom gynecomastia often appeared on the troop-ship returning home. The gynecomastia in these men suggests that the component of the hypothalamic-pituitary-gonadal axis affected is the gonad. A third possibility is gonadal failure of hypothalamic origin that may follow an emotional experience or an environmental change such as might correspond to the hypothalamic amenorrhea that often affects women submitted to similar disturbances.

PITUITARY GLAND OR GONAD?

Passing down the axis we come next to the pituitary and to the gonad, and in order to determine the site of the primary lesion we have, to aid us, the estimation of urinary follicle-stimulating hormone. If the cause of the gonadal failure is lack of production and release of gonadotrophin, then minimal quantities of follicle-stimulating hormone will appear in the urine. If the failure is primarily in the gonad, especially in the seminiferous tubule, then the reciprocal control that exists between a pituitary trophic hormone and its target hormone will break down, and uncontrolled production and release of follicle-stimulating hormone will occur and relatively large quantities will appear in the urine. Testicular biopsy alone will not necessarily reveal whether the failure is primarily pituitary or primarily gonadal.

The cases of pituitary failure that are of interest are those of selective hypopituitarism. In some cases both gonadotrophic hormones (follicle-stimulating hormone and interstitial cell-stimulating, or luteinizing, hormone) may have failed. Not only aspermia is found but also eunuchoidism, a condition that Albright has described as eunuchoidism with low follicle-stimulating hormone. In other cases the production and release of interstitial cell-stimulating hormone are normal, the interstitial cells of the testis produce adequate quantities of testosterone, and there is no evidence of androgenic deficiency. Follicle-stimulating hormone production, however, has failed, and the aspermia is due to lack of stimulation of the germinal epithelium. It is clear that if there were available a potent human pituitary gonadotrophin of the follicle-stimulating variety, some of these cases of hypogonadotrophic hypogonadism might be remediable. Work along these lines has already been reported. Furthermore, a recent report from Albright's group in Boston suggests that chorionic gonadotrophin is capable of inducing maturation of all the elements of the testis including the germinal epithelium, with production of numerous active spermatozoa in cases of eunuchoidism with low follicle-stimulating hormone.

If the gonad itself is the primary source of the failure, classification cannot at the moment be very precise or clear-cut for two principal reasons. One is that a considerable number of clinical syndromes have been described, and it is as yet too early to decide whether some of them are minor variations of one fundamental syndrome or whether there are in fact a large number of clearly different syndromes. Though immense progress has been made in the study of the histology and histochemistry of the testis since Dr. Hotchkiss and Dr. Charny introduced testicular biopsy in the diagnosis of sexual disorders in men in the early 1940's, there is still a good deal to be done. The significance of features such as peritubular fibrosis and the glycogen content of the Sertoli cells is as yet not absolutely clear. The second difficulty is that there is still no exact agreement concerning the function of the various structures of the testis. It is universally acknowledged that the interstitial cells produce testosterone, that they are controlled by the interstitial cell-stimulating, or luteinizing, hormone of the pituitary gonadotrophic complex, and that spermatogenesis is a function of the germinal epithelium. But there seems some doubt about the function of the Sertoli cells. A second testicular hormone has been postulated; McCullagh named it "inhibin" over 20 years ago, though it may be more prudent at the present time to refer to it as the x-hormone. It is thought to support spermatogenesis, to inhibit follicle-stimulating hormone production and the mammogenic effect of testosterone, and, possibly, to stimulate interstitial cell-stimulating hormone production. These functions are remarkably similar to those of estrogen in women. It is possible that this hormone may be estrogen. Where is the x-hormone produced? Some, like McCullagh, believe that it is produced by the germinal epithelium; others, like Albright's Boston group and del Castillo and his group at Buenos Aires, say the Sertoli cells; and there is some evidence that the interstitial cells may secrete it. Finally, there are some like Nelson and Heller who find no evidence of the existence of "inhibin." They suggest that the increased follicle-stimulating hormone production in these syndromes of testicular deficiency can be explained by the theory that this hormone is not utilized because of failure of development of the appropriate testicular cells.

GONADAL CAUSES

We proceed to primary gonadal causes of infertility in men. The genetic disorder of testicular agenesis, equivalent to that of ovarian agenesis (Turner's syndrome), is rare in men although cases have been described. A number of congenital abnormalities, such as dwarfism, webbed neck, and coarctation of the aorta, may accompany gonadal deficiency. Panhypogonadism, or eunuchoidism, is due to a failure of the testis during adolescence, perhaps because of uncorrected cryptorchidism or other less well-defined causes that prevent the normal adolescent development of testicular function. The failure may turn out to be irrevocable; it may be due simply to delayed puberty, and adolescence and the entry into normal adulthood may eventually take place in the 20's instead of the teens. It is important to realize this possibility in assessing the claims of specific endocrine therapy. Unless there is some regression when therapy is discontinued, it must be suspected that the condition was a late puberty. Selective hypogonadism refers to those conditions in which failure is confined to one or two but not to all three of the main structures that control testicular function. I have chosen three such syndromes to discuss, though obviously there may be more. The first is the condition of germinal aplasia described recently by Sohval and Soffer. In germinal aplasia there is preservation of the Sertoli and Leydig cells. The second is a condition of testicular dysgenesis described by del Castillo and his group. They regard it as being due to a defect in the development of the testis. There is absence of germinal cells although the tubules are of normal size and entirely composed of Sertoli cells. Interstitial cells are intact. Del Castillo and co-workers observed no gynecomastia, obtained normal urinary follicle-stimulating hormone values, and, therefore, credit the Sertoli cells with the production of x-hormone; this view is shared by the Boston group. McCullagh, Sirridge, and McIntosh, however, found elevated urinary follicle-stimulating hormone values in del Castillo's syndrome and adhere to the view that x-hormone is produced by the germinal epithelium. Finally, in the Klinefelter syndrome (described by Klinefelter, Reifenstein, and Albright) there is tubular hyalinization, peritubular fibrosis, and intact Sertoli and Leydig cells. The condition is associated with high follicle-stimulating hormone values and, in some cases, gynecomastia.

It is beyond the scope of this brief survey to go into detail concerning these numerous syndromes of primary testicular failure. Indeed the problem is still in the stage of study and has not yet achieved the stage of dogmatic teaching.

CONCLUSIONS

Since testicular biopsy and urinary follicle-stimulatting hormone estimation have been at the disposal of those dealing with infertility in men, tremendous strides have been made. Undoubtedly this advance will be consolidated. The histology of the testicle is already more informative than that of the ovary, and histological specimens are easier to obtain. Thus, in the very near future we should be able, in many cases, to explain just why men are infertile, though possibly for some time yet the information may be academic. Therapy, however, still lags behind theories of etiology.

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HAS A SOLUTION FOR THE "UNSOLVED FRACTURE" BEEN FOUND?

PROBLEMS AND COMPLICATIONS OF FRACTURES OF FEMORAL NECK

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In a paper on fractures presented before the American College of Surgeons in 1934, Kellogg Speed used the title "The Unsolved Fracture" for discussion of the intracapsular fracture of the neck of the femur. He stated, "this fracture was chosen for discussion because for more than a century its treatment and the results have been a matter of controversy and inquiry among surgeons, and because, although the results obtained today show improvement, they are not at all comparable to those of other fractures." He advised treatment of this fracture by the Whitman[1] method, which consisted of gentle reduction by traction, inversion, abduction to the degree indicated, and plaster immobilization. He added, however, that a few might prefer the use of early surgery, employing selected methods, in an attempt to minimize the period of immobilization and to avoid feared complications. Speed concluded that treatment of the fracture of the femur was entirely unsatisfactory. In the intervening 19 years many changes have been brought about. It seems reasonable, therefore, that we should pause and attempt to reevaluate this problem to determine whether a solution for this universal problem has been found. This study is based on a series of 203 consecutive cases of femoral neck fractures seen in a single private practice during a 15 year period.

The Whitman[1] method for the treatment of femoral neck fractures has been almost entirely discarded. The young orthopedic surgeon in training today scarcely realizes that this method of treatment represented an important step in the development of our present-day methods and that the method of reduction described by Whitman and later modified by Leadbetter[2] is still in use. Since the most conservative methods of treatment

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Chairman's address read before the Section on Orthopedic Surgery at the 102nd Annual Meeting of the American Medical Association, New York, June 3, 1953.

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[1] Whitman, R.: Abduction Treatment of Fracture of Femur, Surg., Gynec. & Obst. **27**:578, 1918.

[2] Leadbetter, G. W.: Treatment for Fracture of Neck of Femur, J. Bone & Joint Surg. **15**:931, 1933; Cervical-Axial Osteotomy of Femur: Preliminary Report, ibid. **26**:713, 1944.

failed to give satisfactory results, it was only natural that many surgeons turned to operative methods and internal fixation. Campbell states that the use of internal fixation was first reported by Langenbach in 1850. Thomas [3] in 1921, and Martin and King in 1922 reported the use of steel screws. Campbell also states, however, that poor available metals, inadequate roentgenographic control, and inaccurate reduction of the fracture in many instances caused the use of internal fixation to be discarded and delayed for many years. Many types of internal fixation have been used. Ivory and bone pegs, pegs prepared from cow's horn, various types of lag screws, triangular-shaped metal spikes, Lorenzo screws, threaded wires, Moore pins, Knowles pins, combination of Lorenzo screws and plates, and various nail plate combinations have been tried in various clinics. Smith-Petersen [4] developed the three-flanged nail and placed the use of internal fixation on a sound basis. His efforts have popularized this method to the extent that it is almost universally accepted today as the preferred procedure in the early treatment of this fracture.

NEED FOR IMPROVEMENT

In spite of improvement in the methods of treatment for this type of fracture, the results still leave much to be desired. Such a fracture may be seen early, accurately reduced, and adequately fixed, and still the late result may be very poor. This is largely because the blood supply to the femoral head is often completely disrupted by the fracture. As a result, aseptic necrosis and subsequent disintegration of the femoral head may be encountered. The problem of aseptic necrosis in these fractures has long been recognized. Sir Astley Cooper, early in the 19th century, stated that these fractures failed to unite because "the ligamentous sheath and periosteum of the neck of the bone are torn through, the bones are pulled apart, and there is a want of nourishment of the head of the bone." The work of Phemister [6] in recent years has added much to our knowledge of this problem. The incidence of aseptic necrosis is quite high, and, in this series of 203 cases, the problem was encountered in 60 instances among patients followed for one year or more. This represents an incidence of aseptic necrosis of almost 40% among patients followed for one year or more. This percentage of aseptic necrosis is more thoroughly appreciated by the fact that 43 cases were followed for a shorter period of time and 12 patients died within six weeks.

While it may be stated that the incidence of aseptic necrosis in these fractures is very high, the exact figures are undoubtedly misleading. Fifty-seven of these patients were initially treated elsewhere, and it would be impossible to state the exact incidence of aseptic necrosis, unless we knew the total number of patients treated during this same period of time by the group of physicians who furnished the initial therapy. The majority of persons who were later referred to an orthopedic surgeon were those in which some complication had followed the initial treatment. On the other hand, if every patient could be followed for 10 years or longer, the incidence would undoubtedly be even higher. One person in this series showed no evidence of aseptic necrosis until after an elapsed time of over 9 years, and at the end of 13 years showed the typical degenerative changes associated with such a process or resulting from a secondary osteoarthritis. In this series of 203 cases there were 50 instances of nonunion. Many of these occurred in conjunction with aseptic necrosis, but several instances were encountered in which a nonunion persisted even though the femoral head appeared to be viable. At the present time there are no means by which the circulation to the femoral head can be maintained, or restored, in these fractures with assurance that aseptic necrosis can be avoided. This, therefore, continues to represent the major portion of the unsolved problem in this fracture.

Moreira, in a visit to the United States in 1936, demonstrated in various clinics the use of the stud bolt screw. This was similar in some respects to the lag screw, which was described by Henry in 1934,[7] and by Henderson [8] in 1937, but seemed to have the distinct advantage of thinner, deeper threads for purchase and fixation of the head. A series of 15 consecutive fractures were treated by this method in the hope that firm impaction of the head and neck of the femur would serve to restore adequate blood supply to the devitalized head. The difficulties encountered in this operative procedure, however, were so great that the results would still have been no better than with the use of the Smith-Petersen [4] nail, even if the incidence of aseptic necrosis had been completely abolished. In a few instances the head of the femur was actually rotated in the acetabulum as the threaded end of the bolt entered the head. Kirschner wires were drilled into the head at times in an attempt to control the rotation, but this was not entirely successful. In this series of 15 cases, 3 patients died within three weeks, the results were unknown in 3 instances, and only 4 results could be classified as good. Two infections were encountered, and there were five instances of aseptic necrosis and four of nonunion. Because the results were inferior and the operative procedure much more difficult, the use of this method was entirely discarded and the three-flanged Smith-Petersen nail has been used exclusively for early internal fixation in all other cases.

In addition to aseptic necrosis, loss of position at the fracture site also represents a complication that is frequently encountered. Pauwels [9] has described three types of fractures of the neck of the femur, varying with the degree of obliquity of the fracture line. These types are roughly horizontal, oblique, and vertical. The vertical, or third, type obviously represents the one that is most difficult to hold and that tends to shift, even though accurate reduction and internal fixation have been obtained. In some instances an associated subtrochanteric osteotomy is justified at the time of the original operation, in order to change the angle of this fracture line from a vertical to a horizontal position. When an osteotomy of this type is performed, internal fixation by means of a nail plate is required in order to accurately fix the osteotomy site as well as the fracture. Such a procedure will usually prevent displacement of the head, but it does not alter the blood supply to the head of the femur and does not decrease the possibility of aseptic necrosis. Two such operations were performed in this group of 203 cases, and in one an aseptic necrosis was encountered at the end of two years, while the other hip was healed and showed an excellent result at the end of three years.

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[3] Thomas, T. T.: Fixation by a Wood Screw Without Arthrotomy in Certain Fractures of Neck of Femur, Am. J. Surg. 35: 292, 1921.

[4] Smith-Petersen, M. N.; Cave, E. F., and VanGorder, G. W.: Intrascapular Fractures of Neck of Femur: Treatment by Internal Fixation, Arch. Surg. 23: 715, 1931.

[5] Deleted on proof.

[6] Phemister, D. B.: Fractures of Neck of Femur: Dislocations of Hip, and Obscure Vascular Disturbances Producing Aseptic Necrosis of Head of Femur, Surg., Gynec. & Obst. 59: 415, 1934.

[7] Henry, M. O.: Intracapsular Fractures of Hip: New Device for Lateral Osteosynthesis, J. Bone & Joint Surg. 16: 168, 1934.

[8] Henderson, M. S.: Internal Fixation of Fractures of Neck of Femur, Arch. Surg. 35: 419 (Sept.) 1937.

[9] Pauwels, F.: Der Schenkelhalsburch, ein Mechanische Problem, Zeitschrift für örthopädische Chirurgie, Stuttgart, Ferdinand Enke, 1935.

RECONSTRUCTIVE METHODS

Once an unsatisfactory result has been encountered from aseptic necrosis, displacement of the fragments, or from non union, some type of reconstructive measure is required. The Whitman[1] and Brackett reconstructions probably represent the earliest measures used, but the author has had no experience with these procedures. McMurray,[10] Blount,[11] Leadbetter,[2] and James Dickson[12] have been foremost in advocating some form of subtrochanteric osteotomy to overcome this complication. Such an osteotomy will frequently result in union for the ununited fracture, but it cannot control the progressive degeneration of the head associated with aseptic necrosis. Many of these hips, therefore, are still in entirely unsatisfactory condition after this type of treatment. Twelve of the patients in this series were treated by osteotomy, but not a single result could be considered satisfactory after an elapsed time of three years.

Smith-Petersen[4] has long advocated the use of cup arthroplasty for this problem, and the procedure has afforded stability and improved results in many instances. In some instances the femoral neck is quite short and the trochanter may be transplanted inferiorly to produce an apparent lengthening of the neck. Many times, however, the neck of the femur is almost completely absorbed and the anatomic structures are not satisfactory for the usual type of cup arthroplasty. Colonna,[13] in 1937, described a reconstructive procedure applicable to this problem in which the abductor muscles were detached from the trochanter and the trochanter itself was placed within the acetabulum after the head of the femur was removed. The abductor muscles were then attached to the shaft of the femur below the trochanteric level. This procedure was later modified by the use of a cup made of Vitallium (a cobalt-chromium alloy) on the tip of the trochanter so that a smoother surface would be available for contact with the acetabulum. This procedure results in considerable shortening of the extremity, a position of relative abduction at the hip jont, some knock knee, and a distinct limp in walking. This operation was performed in five instances in this series of cases, but the results could be classified as only fair. Stability of the hip was afforded, but there was marked limitation of motion and some discomfort in all instances. No patient improved to the extent that all outside support could be discarded. A cane or crutch was required in each instance.

The use of bone grafts across the site of the fracture has been recommended and used in some instances for treatment of nonunion and aseptic necrosis. Phemister[6] recommended this procedure highly and stated that revascularization and replacement of the head of the femur could be hastened and insured by the use of adequately placed tibial grafts through the femoral neck and into the femoral head. Five patients with aseptic necrosis of the femoral head were treated by bone grafts in this series of cases. No result could be classified as good. The replacement process of the femoral head required a period of several years. Even then, irregularity of the articular surface developed and some degenerative arthritis of the hip was encountered. Pain persisted in all instances and, in some, was so severe that further reconstructive measures were required. One of the greatest disadvantages of the use of the bone grafts is the fact that protection from weight bearing by means of crutches is required over a period of many months and usually for two years or longer.

The Brackett operation, mentioned previously, consists of placing the stump of the neck of the femur in contact with the slightly hollowed femoral head. This was modified by Moore[14] in 1948 and reported as the cartilage cup arthroplasty. He recommended that most of the bone be removed from the head of the femur so that a cartilage cup through which light could be transmitted was prepared. This cup was then used in exactly the same manner as the Vitallium cup, and in some instances the bone dust that resulted from cleaning out the femoral head was used as a paste between the stump of the neck and the cartilage cup. This procedure was used in six cases in this series, and in no instance could the result be classified as satisfactory after three years. In two instances the cartilage cup completely disintegrated, in one it became displaced and additional reconstructive therapy was required, and in the remaining three cases the result could be classified as fair. In each instance there was definite shortening, limp, limitation of motion, discomfort, and some evidence of degenerative arthritis in the hip joint.

Arthrodesis of the hip has also been advocated as a means of treating the unsatisfactory results or complications encountered in fractures of the femoral neck. An arthrodesis of the hip in persons of this age represents a major surgical procedure in all respects. The period of postoperative plaster fixation required for treatment of this type is of major concern and increases the morbidity and mortality rate considerably. Only one arthrodesis has been attempted in this series, and the result was only fair. The patient never recovered to the extent that she was able to be active and self-supporting and spent the remainder of her life in an infirmary for the aged. Arthrodesis of the hip, therefore, represents such a major surgical undertaking that it should be avoided in older persons, if possible.

PROSTHESIS

In spite of these various recommended reconstructive procedures, the treatment of complications encountered in fractures of the neck of the femur has obviously remained unsatisfactory. So little could be offered in the way of reconstructive surgery that one often wondered whether these patients would do just as well to continue the use of one or two crutches if the primary reduction and internal fixation failed to afford a satisfactory result. This plan of therapy, in fact, was recommended for many patients in this series in whom pain was not a major symptom. More recently, the Judets[15] have reported and recommended the use of a replacement type of prosthesis in which the femoral head is removed and replaced, whether it is the seat of a nonunion or of aseptic necrosis. The prosthesis originally described by Judet has been modified by some surgeons, and the all-metal type is now used quite extensively. In instances in which a satisfactory femoral neck remains, the Judet type of prosthesis can often afford a very satisfactory result. Many cases, however, are encountered in which the femoral neck is largely destroyed or the location and obliquity of the fracture line leave very little femoral neck with which to work. Unless an adequate femoral neck remains, a satisfactory purchase for this prosthesis cannot be obtained. Eicher, Fred Thompson, Austin Moore, McBride, and others have devised intramedullary types of fixation for use of the prosthesis in instances in which the femoral neck has been largely destroyed. The use of the replacement type of prosthesis seems to offer considerable hope for improved results in the treatment of these complications of the fracture of the femoral neck. No one person, however, has had sufficient experience with this procedure for us to state with certainty that permanent satisfactory results can be obtained in the majority of cases. No case in this country has been followed for more than a few years, and it is impossible to state whether a replacement type of prosthesis can be expected to stand the wear and tear of weight bearing over a period of 15 or 20 years. It should also be stated, however, that these fractures occur in an age group in which the average expectancy may not be more than a few years and satisfactory results extending over a shorter period of time would still be acceptable. In this series of 203 cases the Judet type of prosthesis has been used in 9 instances, the Eicher prosthesis in 8 instances, and the Fred Thompson type in 2. Several complications have been encountered. Fracture of the shaft of the femur has been encountered in three instances with the use of the intramedullary type of prosthesis. One intramedullary prosthesis has become dislocated twice in the same patient, and in two instances the tip of the intramedullary stem penetrated the outer cortex of the shaft of the femur. In each instance the prosthesis was reinserted in proper position. One instance of dislocation occurred when the anterior portion of the joint capsule was excised and no attempt was made to reconstruct it. Since that time the joint capsule has been preserved in every instance and resutured in order to maintain some degree of postoperative fixation. Complications have been encountered in the use of the Judet[15] type of prosthesis also. In some instances, the stem was too long or too short, and in others an adequate femoral neck was not present for suitable contact with the head of the prosthesis. In two instances the head of the prosthesis contacted only the superior cortex of the femoral neck and, after one year, there is already some evidence of erosion of the bone structure at this point. While it is still too early to make a definite statement with reference to results, with any type of prosthesis, it is possible that the intramedullary type may eventually prove to be far more satisfactory than the Judet type. Careful study over a period of several years, however, will be required before this question can be answered with certainty.

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[10] McMurray, T. P.: Fracture of Neck of Femur Treated by Oblique Osteotomy, Brit. M. J. **1**: 330, 1938.

[11] Blount, W. P.: Blade-Plate Internal Fixation for High Femoral Osteotomies, J. Bone & Joint Surg. **25**: 319, 1943.

[12] Dickson, J. A.: Ununited Fractures of Neck of Femur, J. A. M. A. **137**: 1199 (July 31) 1948.

[13] Colonna, P. C.: Reconstruction Operation for Old Ununited Fractures of the Femoral Neck, J. Bone & Joint Surg. **19**: 945, 1937.

[14] Moore, J. R.: Cartilaginous-Cup Arthroplasty in Ununited Fractures of Neck of Femur, J. Bone & Joint Surg. **30-A**: 313, 1948.

In spite of the complications that have been encountered in the use of the replacement type of prosthesis, this form of treatment seems to offer far more in the way of reconstructive surgery for complications of femoral neck fractures than has been available in the past. One cannot help but be impressed and encouraged by the patient who has been relieved of pain, afforded stability, given improved motion and function, and who has been able to discard crutches for weight bearing after such a reconstructive measure. Such a result is not uncommon and can often be obtained within a few weeks or a few months after surgery. At present, therefore, the use of some replacement prosthesis probably represents the most suitable reconstructive measure that these patients can be offered and should be utilized by orthopedic surgeons in properly selected cases. This type of reconstructive surgery, of course, does not afford a normal hip. It represents a makeshift proposition at the best and is only acceptable today because we have no means of avoiding the complications of aseptic necrosis and nonunion in these fractures.

COMMENT

In the study of any series of femoral neck fractures today, one cannot avoid the impression that most of the progress in the last few years has been made in the reconstructive field. It would seem from this that orthopedic surgeons have been content to accept the theory that present treatment of these fractures is ideal and that no further investigation is needed in this portion of the problem. Yet, the unsatisfactory results are directly attributable to inadequacy of the initial therapy or to degenerative changes that follow disruption of the normal blood supply to the femoral head. Once any such complication has developed, the restoration of a normal hip is impossible. The new and improved reconstructive measures that have been developed for use in the presence of these complications represent important advances in our knowledge of the problem. This, however, may be comparable to "locking the barn door after the horse has been stolen," and we cannot be wholly satisfied with our treatment of femoral neck fractures until a means has been found to control and prevent these complications. It can be safely stated, therefore, that true and lasting progress can be achieved only by more basic study of the fresh fracture. This should include not only the means of initial treatment and fixation but also additional studies of the basic physiology involved. Unless some means is found to control or restore an adequate blood supply to this involved femoral head, the most frequent complication, aseptic necrosis, cannot be prevented and the percentage of grossly unsatisfactory results will continue to be high.

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15. Judet, J., and Judet, R.: Use of Artificial Femoral Head of Arthroplasty of Hip Joint, J. Bone & Joint Surg. 32-B: 166, 1950.

CONCLUSIONS

In the 19 years that have elapsed since Kellogg Speed delivered his paper entitled "The Unsolved Fracture," operative treatment and internal fixation for the fresh fracture of the femoral neck has been generally accepted and used. In spite of this change in early treatment, the results in a high percentage of cases are still unsatisfactory because of the high incidence of aseptic necrosis and nonunion. When these complications are encountered, various reconstructive measures are now available. Such measures do not restore a normal hip joint, however, and are acceptable only because the frequent complications cannot presently be prevented. Therefore, in spite of the fact that treatment of this fracture has improved tremendously in the last quarter of a century, we can still not be satisfied that a totally satisfactory means of therapy has been obtained. Until the incidence of aseptic necrosis and nonunion of these fractures can be diminished or abolished, we must still classify the fracture of the neck of the femur as "The Unsolved Fracture."

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CLINICAL STUDIES ON VERATRUM ALKALOIDS

4. USE OF PROTOVERATRINE IN TOXEMIA OF PREGNANCY

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The primary disturbance responsible for toxemia of pregnancy remains unknown. The similarity to some of the effects of salt-retaining steroid hormones (edema, hypertension, and albuminuria) has led to speculation concerning the etiological role of these hormones. It has not, however, resulted in a logical preventative or treatment other than the long-practiced restriction of salt. Such a comparison serves to separate two major events in the sequence of toxemia. The first is the excessive retention of water and salt. The second is the development of generalized arteriolar vasospasm, with consequent increased peripheral resistance and elevated arterial pressure. In this connection it is of interest that the administration of cortisone to normal persons [1] potentiates the vasoconstrictor response to physiological amounts of norepinephrine, thus illustrating the mechanism whereby a steroid hormone may cause hypertension. Whatever the primary unknown disturbance, most of the serious symptoms and many of the sequelae of toxemia appear to be the result of the intense arteriolar vasoconstriction and the accompanying hypertension. Arteriolar spasm is usually readily visible in the optic fundus. It can be differentiated from true arteriosclerosis by its disappearance or diminution when the blood pressure is lowered or the toxemia abates. Measurements of cerebral blood flow in eclampsia [2] indicate that there are notable increases in cerebral vascular resistance due to arteriolar constriction.

Many measures to lessen the vasoconstriction and hypertension in toxemia have been advocated. These have included spinal anesthesia [3] and a wide variety of drugs,[4] some of which completely or partially block the autonomic nervous system. With this latter group, hypotension may be achieved at the expense of profound disturbances in circulatory dynamics, such as orthostatic hypotension, compensatory tachycardia,[5] and increased cardiac output.[6]

One of the oldest agents used in the treatment of eclampsia was a crude preparation from the root of Veratrum viride. Despite scattered favorable reports of its use in eclampsia,[7] it fell into disrepute except among the Cincinnati group.[7b] The reasons for its poor reputation are not hard to seek. The characteristic hypotension and bradycardia were attributed to a toxic effect on the heart. The transient oliguria at maximum hypotension was considered to be a toxic effect on the kidneys. Moreover, difficulties in preparing reproducible extracts made nausea and vomiting a frequent accompaniment to therapy, and it was almost impossible to obtain pharmacological data in humans concerning the administration of these agents. These difficulties have been overcome to some extent by recent methods of biological standardization [8] capable of detecting a 20% difference in potency; however, there is a relatively narrow margin, not much greater than the limits of biological standardization, between an effective hypotensive dose and one capable of causing nausea, vomiting, or profound hypotension.[9] More accurate evaluation of potency consequently is desirable.

The availability of crystalline Veratrum esters has made it possible to estimate dosage in terms of weight. Studies using protoveratrine, an alkaloid derived from Veratrum album,* have established the dose-response relations of this drug in hypertension due to varied causes including toxemia.[10] With such data it has become possible to administer protoveratrine with predictable and reproducible results. Moreover, pharmacological and physiological investigations [11] in animals and man have presented data to combat long-standing misconceptions

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The protoveratrine used in these studies was supplied by Eli Lilly and Company, Indianapolis.

Owing to lack of space, some of the bibliographic references have been omitted from THE JOURNAL and will appear only in the author's reprints.

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[1] Kurland, G. S., and Freedberg, A. S.: Potentiating Effect of ACTH and of Cortisone on Pressor Response to Intravenous Infusion of 1-Nor-Epinephrine, Proc. Soc. Exper. Biol. & Med. **78**: 28, 1951.

[7] (*a*) Haultain, F. W. N.: Notes on Some Cases of Eclampsia Treated by Veratrone, Edinburgh M. J. **11**: 313, 1913. (*b*) Bryant, R. D., and Fleming, J. G.: Veratrum Viride in the Treatment of Eclampsia: II, J. A. M. A. **115**: 1333 (Oct. 19) 1940. (*c*) Irving, F. C.: Treatment of Eclampsia and Pre-Eclampsia with Veratrum Viride and Magnesium Sulfate, Am. J. Obst. & Gynec. **54**: 731, 1947.

* Protoveratrine is now known to consist of two substances, protoveratrine A and B, that differ by one oxygen atom and appear to have similar activity.

[10] Meilman, E., and Krayer, O.: Clinical Studies on Veratrum Alkaloids: II. Dose-Response Relations of Protoveratrine in Hypertension, Circulation **6**: 212, 1952.

concerning the Veratrum esters. In the dosage required, the hypotension results from a generalized diminution in arteriolar vasoconstriction without autonomic paralysis and not from any toxic effects on the heart. The bradycardia is due to strong vagal stimulation and can be readily overcome by atropine without, as a rule, affecting the hypotension. The oliguria results from the lowering of arterial blood pressure and is transient.[12] Prolonged administration does not result in water or salt retention.[13] In fact, as will be shown below, it does not interfere with diuresis. Protoveratrine diminishes the increased cerebrovascular resistance as it lowers the blood pressure.[14] Similarly, it causes release of renal vasoconstriction in hypertensive patients with or without renal disease.[11c] Resistance in the peripheral vascular bed also decreases without any concomitant increase in cardiac output.[15] This report concerns the effects noted from the administration of protoveratrine to 10 pregnant women with severe preeclampsia, 6 with eclampsia, and 1 with severe essential hypertension.

USE OF PROTOVERATRINE TO CONTROL TOXEMIA OF PREGNANCY

In many instances toxemia develops so early in pregnancy that the chances of fetal survival with immediate delivery are small. Yet if the fetus remains undelivered, intrauterine death often occurs. The danger of placental separation is a further compelling reason for early delivery. Such patients may, in some instances, be carried for several weeks by the judicious use of protoveratrine, until reasonable maturity of the fetus is reached. We have treated 10 patients with severe preeclampsia. The following two case reports, which are typical, illustrate certain features of such treatment.

REPORT OF CASES

Case 1.—A 28-year-old primipara entered the Beth Israel Hospital on March 3, 1952, approximately eight weeks from term, because of hypertension and albuminuria. One year previously she had received radioactive iodine at another hospital for thyrotoxicosis, and at that time a blood pressure of 212/112 mm. Hg was recorded. On admission she was not in acute distress. Her blood pressure was 174/120. There was extreme narrowing of the entire arteriolar tree in both fundi. The heart and lungs were normal. The uterus was palpable 28 cm. above the symphysis. Fetal heart tones were heard. Pitting edema was present over the sacrum and both legs. Urinalysis revealed 4+ albuminuria, no casts, and up to three red blood cells per high power field. The blood nonprotein nitrogen level was 27 mg. per 100 cc. The total protein level was 6 gm. and the uric acid 5.3 mg. per 100 cc.

During the first hospital day, she received 4 cc. of 50% magnesium sulfate every two to three hours intramuscularly, ammonium chloride, and sedatives. Her blood pressure continued at 180 to 200 mm. Hg systolic and 110 to 120 diastolic. The following day this program was discontinued, and she was treated with a low sodium diet and intermittent injections of protoveratrine totaling 0.7 to 0.8 mg. per day in two or three divided doses subcutaneously. The average blood pressure on the first day of treatment was 160/100, the next 170/110, and the third 150/90. The blood pressure remained at this level or lower, averaging only 120/70 with but one injection of 0.2 mg. on the eighth day. Her urinary albumin level had steadily decreased by the eighth day to 120 mg. in 24 hours. The arterioles in the optic fundi were now completely normal in appearance, the spasm having decreased noticeably after one day of treatment.

The patient's course had been so satisfactory that protoveratrine was omitted. On the 9th and 10th days her blood pressure averaged 150/100, and on the latter day her urinary albumin increased to 489 mg. in 24 hours. On the 11th day when the urinary albuminuria increased suddenly to 4+, it was decided to temporize no further and a 4 lb. 2 oz. (1871 gm.) child was delivered by cesarean section. Both mother and baby did well postoperatively.

Comment.—The prompt control of the blood pressure with protoveratrine is noteworthy in this case, especially since a trial with the usual measures was ineffective. The disappearance of arteriolar spasm was very striking, as was the diminution in urinary albumin. The patient's course was one of steady improvement during treatment with protoveratrine. When the drug was omitted, she was quickly in difficulty once again. Control of the hypertension and thereby possibly some of its complications does not, however, remove or control the underlying disturbance in toxemia, as the following case illustrates.

Case 2.—A 34-year-old woman, gravida 1, was observed in the prenatal clinic. A slowly rising blood pressure was noted to reach 160/100 at 26 weeks of gestation. Her weight was 190 lb. (85.9 kg.), representing a gain of only 10 lb. (4.5 kg.). At 28 weeks, despite a low-salt diet, the blood pressure was 158/96 and the weight still 190 lb., but 3+ albuminuria was present. On admission to the hospital she was asymptomatic. Edema of the hands and face was present. The blood pressure was 160/100. The optic fundi showed slight arteriolar narrowing. The albuminuria was 2+. The hemoglobin level was 13.1 gm. and the red blood cell count 4.28 million. The nonprotein nitrogen level was 25 mg., the total protein level 6.5 gm., with 4.1 gm. of albumin and 2.4 gm. of globulin, and the uric acid level 5.1 mg. per 100 cc.

For the first three days she received routine treatment consisting of salt restriction, bed rest, barbiturates, and injections of magnesium sulfate, but without significant response. On the fourth day injection of 0.33 mg. of protoveratrine subcutaneously twice daily was started. Administration of magnesium sulfate was discontinued. The blood pressure was controlled satisfactorily without any undesirable side-effects for the next four and one-half weeks. At the end of the first week of treatment her nonprotein nitrogen level had risen to 43 mg. and uric acid to 8.0 mg. per 100 cc. Urinary output remained good, but albuminuria (1.3 to 1.5 gm. daily) persisted. At the end of four weeks, the nonprotein nitrogen level was 27 mg. and uric acid 5.4 mg. per 100 cc. Her weight diminished by 9 lb. (4.1 kg.). She remained asymptomatic, and the uterus increased in size commensurate with the elapsed time. On the 35th hospital day (33½ weeks of gestation) for the first time the fetal heart was not heard and four hours later the patient went into labor. After nine hours a stillborn infant weighing 2 lb. 12 oz. (1,247 gm.) was delivered with a double foot breech presentation. A tight knot was present in the cord. The placenta contained many infarcts. Six months later the patient's blood pressure was 130/90 and the urine was free of albumin.

Comment. — This patient had only moderately elevated blood pressure but nonetheless the ease of controlling this aspect of the toxemia is noteworthy. Moreover, it appeared to several observers that fetal growth

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15. Hoobler, S. W., and Corley, R. W.: Hypotensive Action of Protoveratrine, Univ. of Mich. Med. Bull. **16**: 362, 1950.

did occur during the period of treatment, contrary to the usual experience in such cases. It is apparent, however, that blood pressure control alone does not insure a successful outcome. The death of the fetus may have been due in this instance to the knotted cord, but the possibility that prolonged exposure to the toxemia caused fetal death appears more likely.

EFFECT OF PROTOVERATRINE ON THE PREMONITORY SYMPTOMS OF ECLAMPSIA

In his "Textbook of Obstetrics," Irving [16] states, "The appearance of severe headache, visual disturbances, epigastric pain and oliguria indicates that an eclamptic seizure is impending." These premonitory symptoms are so characteristic that one or more of them was lacking in only 15 out of 2,005 cases of eclampsia.[17] The ill omen of renal suppression has recently been reemphasized.[18] The control of such symptoms with protoveratrine coincident to the lowering of blood pressure would suggest that this agent was useful in preventing imminent convulsions.

Four patients with preeclamptic toxemia exhibited at least two of the premonitory symptoms listed above. In all there was prompt alleviation after administration of protoveratrine. The detailed case reports of two of these patients are illustrative.

CASE 3.—A 29-year-old woman, gravida 3, para 2, was admitted to another hospital (Jan. 17, 1949) six weeks from term because of hypertension and albuminuria. Her first pregnancy ended at term with a stillbirth. The present pregnancy was marked by a total weight gain of 40 lb. (18.1 kg.). She had gained 30 lb. (13.6 kg.) in the previous two months, during which time massive edema of the legs and thighs appeared. The blood pressure had risen slowly during the preceding month to 130-140/90. The urine had been free of albumin until one day before admission, when 4+ albuminuria was noted. On admission she complained of occipital headache, epigastric pain, and nausea.

Physical examination revealed an obese young woman with massive generalized edema. Her blood pressure was 160/100. The size of the uterus appeared somewhat small for the estimated length of gestation. The urine boiled solid with albumin and contained white cells, red cells, and granular casts. During the first hospital day the total urinary output was 150 cc. For the first three days treatment consisted of bed rest, administration of meperidine (Demerol) and barbiturates, low-salt diet, and administration of magnesium sulfate by intramuscular injection and 20% glucose solution intravenously. The urinary output rose to 500 cc. on the second day and 510 cc. on the third day, both considerably below her intake. Vomiting and headache continued but epigastric pain had stopped. On the fourth day the magnesium sulfate, meperidine, and barbiturates were not given (except for pentobarbital at night) and protoveratrine was administered once or twice daily in 0.20 to 0.28 mg. doses subcutaneously. Typical hypotensive effects appeared in about one-half hour, e. g., the blood pressure decreased from 160/100 to 130-140/70-80, then from 150/90 to 120/70 mm. Hg. By the fifth day the urine volume exceeded intake and by the ninth day she had lost 16 lb. (7.3 kg.) in weight. On the evening of the ninth day, about 12 hours after the previous injection of protoveratrine, the blood pressure rose to 180/100 and she began to have occipital headache and scotomas. Protoveratrine (0.28 mg. subcutaneously) was promptly given. The blood pressure fell to 150/84 in 20 minutes, and concomitantly the headache and scotomas disappeared. At this time it became apparent that the patient was in labor, and one hour later, when the blood pressure was 158/86, a cesarean section was done. The baby did well and the mother had an uneventful postpartum course. A few months later she had no albumin in the urine, and her blood pressure was normal.

Comment.—In this case repeated injections of protoveratrine did not interfere with establishment of diuresis. Headache, scotomas, and a rising blood pressure that appeared at the onset of labor were readily controlled with the drug until definitive obstetric measures could be taken.

CASE 4.—A 39-year-old woman, gravida 5, para 4, was admitted to the hospital on Dec. 11, 1950, 12 weeks from term, because of hypertension and albuminuria. For five weeks she had noted increasing swelling of the hands and feet. Three weeks before admission the blood pressure was 150/70. Four days before admission she noted epigastric pain, vomiting, and dark, scanty urine. On the day of admission the blood pressure was 220/120. The epigastric pain continued and became quite severe.

Physical examination revealed generalized edema. The blood pressure was 220/120. There was a small hemorrhage in the right fundus. The uterus was enlarged to the expected size, and the fetal heart was easily heard. There was exquisite tenderness in the epigastrium as well as pain markedly aggravated by deep breathing. The urine was dark, turned solid on boiling, and was loaded with white cells, red cells, and granular casts. The nonprotein nitrogen was 34 mg. per 100 cc. The total protein level was 3.8 gm., with 2.6 gm. of albumin and 1.2 gm. of globulin. The uric acid level was 5.8 mg. per 100 cc.

The epigastric pain was not relieved by an injection of 60 mg. of codeine. However, one-half hour after the first injection of protoveratrine (0.3 mg. subcutaneously), the blood pressure fell to 154/96, the epigastric pain promptly disappeared, and she breathed deeply and with ease. She received subcutaneous injections of protoveratrine two to three times daily in doses of approximately 0.3 mg., with a resulting blood pressure of 160-170/86-100, unaccompanied by nausea. During the next four days the urinary output increased to over 2,000 cc. daily, finally exceeding the intake; the albumin decreased in amount. There were no new hemorrhages in the fundi. On the fifth day, ineffective labor was induced by artificial rupture of the membranes. A leg was pulled down and a 1 lb. weight attached. During labor the blood pressure rose gradually from 160/100 to 220/120. Protoveratrine, 0.35 mg. subcutaneously, caused a fall to 154/94 just before delivery. Nine hours after induction a stillborn fetus was delivered by the breech. The postpartum course was characterized by frequent elevations of blood pressure, which were controlled to some extent by injections of protoveratrine.

Comment.—In this instance, epigastric pain of such severity as to simulate diaphragmatic pleurisy, present for four days and not responding to codeine, was promptly abolished when the blood pressure was lowered with protoveratrine. Despite the presence of marked oliguria, in this case as in case 3, it was possible to lower the blood pressure and still induce a diuresis so that the patient was in the best possible condition for definitive obstetrical treatment. Eight of the 10 patients with severe preeclampsia (Dieckmann's classification) delivered living children. One fetus died in utero (case 2) and one died during delivery (case 4).

TREATMENT OF ECLAMPSIA

I have treated thus far five patients with eclampsia. I have similar information on a sixth treated elsewhere under my direction who had been treated previously with massive doses of penicillin as well as magnesium sulfate. Four of the six patients had postpartum eclampsia. Four patients (two ante partum and two post partum) had convulsions while under treatment with magnesium sulfate. None of the six patients had any further seizures after treatment with protoveratrine was begun. The patient in the following case had had four convulsions before treatment was begun:

Case 5.—A 34-year-old woman, gravida 2, para 2, had apparently had an uneventful course during pregnancy except for repeated emotional trauma until about 10 weeks from term, when she called her family physician because of abdominal pain. He satisfied himself that she was not in labor, but did not measure her blood pressure or examine her urine. Shortly after he left she had the first of four generalized convulsions, each one preceded by severe headache and scotomas. She was admitted to another hospital unconscious and immediately given an intravenous injection of 25% magnesium sulfate (dose unknown). Urine obtained by catheter contained albumin (3 to 4+). The blood pressure varied from 180-230/130-150 mm. Hg. The heart rate was 130 to 140 per minute, and the pulse was thin and weak. She was seen in consultation two hours after admission, at which time she had regained consciousness and was fairly well oriented although she had amnesia for the events preceding her entry to the hospital. There was minimal but definite edema of the face, fingers, and feet. The optic fundi revealed intense arteriolar constriction. The size of the uterus was quite small for the estimated date of gestation. Protoveratrine was administered as indicated in the chart for the first day and one-half. Dilatation of the constricted fundal arterioles was visible promptly when the blood pressure fell. On the third day the patient went into labor spontaneously and delivered a living infant weighing about 1½ to 2 lb. (680 to 907 gm.), which subsequently died. After delivery blood pressure elevations were treated for a week with one or two injections of protoveratrine daily. At the time of discharge the blood pressure was normal, but 1+ albuminuria was still present.

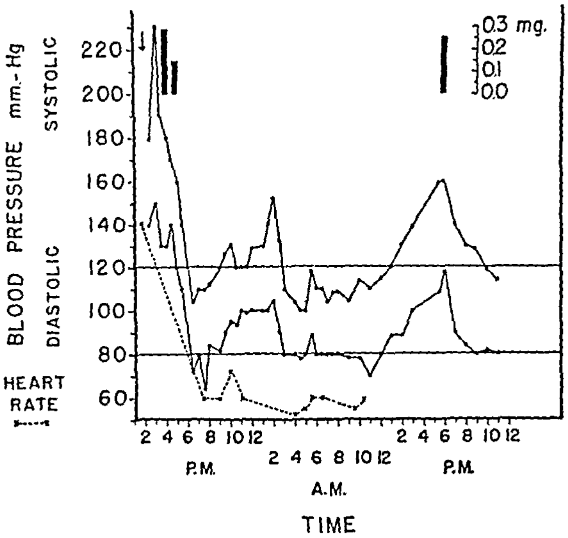
Comment.—In this instance prompt control of the hypertension and convulsions was easily achieved. The long hypotensive action of a single subcutaneous injection of protoveratrine was noteworthy, as well as the ease of administration and calculation of dosage. The initial dose was 4 mcg. per kilogram of body weight; one hour later an additional dose of 2 mcg. per kilogram was given subcutaneously. The following patient had several convulsions, a cesarean section, and anuria before treatment.

Case 6.—A 21-year-old woman, gravida 1, para 1, had gained 12 lb. (5.4 kg.) during the final eight weeks of her pregnancy. One week before term 1 to 2+ albuminuria was detected. A few days before term she began to have abdominal pain and was admitted to another hospital; the blood pressure was 220/140. The following morning she had four convulsions and a cesarean section was performed. The fetus died one hour after delivery. Following operation it was noted that the patient's blood pressure was very low and that she was anuric. She was transferred to the Beth Israel Hospital for management of the anuria.

The patient was lethargic and slightly disoriented. The skin appeared pale and edematous. The blood pressure was 144/110. The fundi showed no hemorrhages or exudate, but there was marked arteriolar spasm. Although the blood pressure was not very high and despite the anuria, she was given protoveratrine subcutaneously. The first injection caused a moderate decrease in blood pressure. By morning the 24 hour urinary output had been only 45 cc. At this time she inadvertently received a dose of protoveratrine that was 66% greater than ordered. Severe hypotension to about 60 to 70 mg. Hg systolic pressure ensued, with a loss of consciousness. The hypotension was treated with 1 mg. of atropine sulfate intravenously and 25 mg. of ephedrine sulfate subcutaneously, which raised the blood pressure to 90/60. After a lapse of about two minutes, consciousness was restored. The blood pressure remained between 90 and 120 mm. Hg systolic for several hours. The fundal arteriolar spasm was much diminished. About one hour later a significant urine flow was noted, and the second 24 hour output reached 300 cc. Intermittent injections of protoveratrine were given to control transient blood pressure elevations. This did not interfere with the marked diuresis that occurred. The nonprotein nitrogen rose to 114, but later fell and was normal at discharge. Recovery was rapid and the patient was discharged with a normal blood pressure and 1+ albuminuria on the 18th hospital day.

Comment.—An overdose of protoveratrine that caused severe hypotension to the point of loss of consciousness did not interfere with, nor did it delay, the appearance of diuresis in this patient with severe renal tubular pathology. Hypotension of this degree from other causes, not involving a generalized vasodilatation, would almost certainly have aggravated seriously the lower nephron nephrosis.

Four of the six patients with eclampsia delivered living children, one of whom died subsequently of prematurity (case 5). One patient was delivered by cesarean section of a live child, which died one hour later, before the patient was transferred to this hospital (case 6). One patient (not described in detail) had had several convulsions and was admitted in coma, at which time the fetal heart could not be heard. After control of the blood pressure with protoveratrine, the patient roused from coma and was delivered from below of a stillborn fetus.



This patient (case 5) had four convulsions before admission to the hospital. The arrow denotes an intravenous injection of 25% magnesium sulfate, following which the blood pressure remained elevated. The heavy vertical bars indicate the subcutaneous administration of protoveratrine. The first dose was 4 mcg. per kilogram, the second was 2 mcg., and the next two each 5 mcg. per kilogram. Vomiting occurred once after the third injection of protoveratrine. No further convulsions ensued.

CONTROL OF SEVERE ESSENTIAL HYPERTENSION

Patients with essential hypertension, especially in the older age group, have a well-known increased incidence of toxemia. In persons of this type, treatment with protoveratrine may be useful in permitting the pregnancy to continue to term or good viability, as in the following case report.

Case 7.—A 41-year-old woman, gravida 2, para 0, was admitted to the hospital during the 27th week of gestation because of hypertension and edema. The family history revealed that her mother and sister had hypertension, the former having died of hypertensive heart disease and the latter of malignant hypertension. The patient had cared for her sister during her final illness, which was complicated by a cortisone psychosis following bilateral adrenalectomy. This period coincided with the early months of her own pregnancy. Following her sister's death, she undertook the additional duties of caring for the latter's children.

For 10 years the patient had labile hypertension for which she had placed herself on a low-salt diet. During the pregnancy a marked decrease in exercise tolerance developed. She climbed stairs only with difficulty and had to sleep on two pillows. There were frequent occipital headaches and occasionally epistaxis. Edema of the legs was noted as early as the third month. Her weight had increased from 212 to 236 lb. (96.3 to 107.2 kg.). The blood pressure was normal early in pregnancy but by the 24th week was 166/90, two weeks later 186/100, and just before admission 236/110 mm. Hg. She had been receiving ammonium chloride since the third month. During the month before admission she had consumed four or five bottles of Alka-seltzer (acetylsalicylic acid, monocalcium phosphate, sodium bicarbonate, and citric acid) because of nausea and abdominal distress.

Physical examination revealed a short, very obese woman, lying on two pillows with slight dyspnea. The temperature was 98 F, the pulse 90, the respiration rate 22, and the blood pressure 220/110 mm. Hg on the right arm and 190/100 on the left. The optic fundi showed one small petechial hemorrhage on the left. The arterioles showed only slight constriction but arteriovenous nicking was present. The heart appeared slightly enlarged to the left. A grade 2 systolic murmur was heard at the apex and to the left of the sternum. The size of the uterus was consistent with six months of gestation. There was massive edema of the legs, thighs, hands, and face.

Laboratory examinations showed no albumin in the urine. Blood nonprotein nitrogen and sugar were normal. The total protein was 5.6 gm. per 100 cc.

She was treated with a low-sodium (200 mg.) diet, ammonium chloride, and intermittent subcutaneous injections of protoveratrine. The blood pressure readings ranged from 200-280/100-140 mm. Hg spontaneously. Protoveratrine caused transient falls to 140-160/70-90. She also received one subcutaneous injection of mercaptomerin (Thiomerin) (0.75 cc.). On the eighth hospital day, having lost 11 lb. (5.0 kg.) in weight, and with the blood pressure stabilized at 150/100, she was discharged home on a program of salt restriction.

She was readmitted two weeks later because of scanty vaginal bleeding, which quickly subsided. The blood pressure was 160/90. She had lost an additional 2 lb. (0.9 kg.) and the urine was free of albumin.

She entered the hospital again five weeks later (approximately one month from term) because of an increase in her edema and the appearance of 1+ albuminuria. The blood pressure range was 240-290/140-170. Generalized marked edema was present. She received intermittent subcutaneous injections of protoveratrine with transient decreases of blood pressure. On the fourth day a cesarean section was performed, and a living child presenting in a floating breech position was delivered. The baby weighed 6 lb. 6 oz. (2,892 gm.). Postoperatively, the blood pressure was lowered intermittently with protoveratrine. At discharge on the 20th hospital day, the blood pressure was 200-210/110-120 and 1+ albuminuria was still present.

Comment.—When this patient, aged 41 and primiparous, had massive edema and severe hypertension before the 28th week, it seemed highly unlikely that any therapy would result in a successful outcome. Nonetheless, conservative treatment, aided by protoveratrine, carried her through a difficult and threatening period so that she could continue gestation to a point where a living, healthy child could be obtained.

COMMENT

The use of hypotensive Veratrum esters such as protoveratrine in toxemia requires careful attention to the dose-response relationships in order to use the drug without causing nausea, vomiting or undue bradycardia. In pregnant patients I have found the subcutaneous route the simplest for good hypotensive effect. The dose range is 4 to 6 μg per kilogram of body weight. If no effect is obtained one hour after an initial dose of 4 μg per kilogram, one-half this dose may then be given. If a moderate but inadequate fall in blood pressure occurs following the initial dose, one-fourth of it may be given in one hour. The effective dose may be repeated at 8 to 12 hour intervals as needed. Smaller doses may be given at shorter intervals. Excessive bradycardia is readily overcome by 0.4 mg. of atropine subcutaneously; up to 1 mg. may be used if necessary. Excessive hypotension can be overcome by a variety of pressor amines, of which I have used ephedrine sulfate (25 mg. subcutaneously). The detailed description of the administration of protoveratrine by continuous intravenous infusion, as well as by the intramuscular, subcutaneous and oral routes for prolonged periods, is presented elsewhere.[19]

Although hypotension from Veratrum alkaloids causes oliguria, it is transient, so that retention of water or salt does not occur. It is readily overcome by osmotic diuretics such as glucose, and even in toxic doses does not interfere with establishment of a spontaneous diuresis. Studies of renal clearances during prolonged hypotension with protoveratrine have indicated that renal vasodilatation occurs.[11c]

The number of cases described here is too few for statistical significance. The sequence of events in some of these patients, however, was so contrary to customary experience as to suggest that protoveratrine was an important factor in therapy. There can be little doubt about its effectiveness in releasing arteriolar constriction. This can be readily observed in the optic fundi when the systemic blood pressure is lowered with protoveratrine. The parallel relief of headache and scotomas has led us to concur in the belief that these symptoms result from cerebral vasospasm. It seems likely also that the epigastric pain in toxemia is, in some unknown way, related to vasospasm, since it, too, is relieved by protoveratrine. The action of this drug, and apparently also of crude and partially purified hypotensive preparations from Veratrum [20] in controlling the premonitory symptoms, the hypertension, and convulsions is very impressive. Control of the vasoconstriction in this disease does not attack the disease at its source, but in this control may lie prevention of many of the serious sequelae.

The use of protoveratrine is not intended to replace certain fundamentals of treatment in toxemia such as bed rest and sodium restriction. It is an adjunct, however, and does offer a means of decreasing arteriolar vasospasm and lowering blood pressure to obviate those symptoms and sequelae of the disease referable to the sustained hypertension. Moreover, it affords the obstetrician a prolonged and safe period before instituting necessary obstetric measures.

SUMMARY

Cases are described that illustrate the usefulness of protoveratrine, a Veratrum alkaloid, for controlling and treating toxemia and eclampsia as well as essential hypertension during pregnancy. They include 10 cases of severe preeclampsia, 6 of eclampsia, and 1 of severe essential hypertension. Prompt control of headache, scotomas, epigastric pain, convulsions, and blood pressure elevations was obtained. I believe that protoveratrine is a distinct addition to the armamentarium of the physician in treating these cases.

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CLINICAL NOTES

PAIN CAUSED BY POTASSIUM INTOXICATION IN A PATIENT WITH KIMMELSTIEL-WILSON SYNDROME

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and
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Hyperkalemia, described frequently in the literature,[1] is characterized by such severe manifestations as generalized muscular weakness and paralysis, electrocardiographic changes representing toxicity to the myocardium,[2] and death.[3] In rare instances, potassium intoxication has caused severe paresthesia.[4] This case report of hyperkalemia in a patient with Kimmelstiel-Wilson syndrome describes an unusual and previously unreported type of pain associated with potassium intoxication. The pain was controlled by administration of glucose and insulin and was easily reproduced by administration of excess potassium. This report also illustrates the possible occurrence of hyperkalemia after excessive administration of orange juice and meat broth in treatment of insulin reactions.

REPORT OF A CASE

History.—A 38-year-old white man was admitted to the Veterans Administration Hospital, Cleveland, on Feb. 27, 1951, with the chief complaint of swelling of the ankles of eight months' duration. During the previous three weeks, he had noted increased swelling of the extremities, puffiness of the face, oliguria, and blurred vision. He was known to have diabetes mellitus, which had been discovered in November, 1935, after development of polydipsia, polyuria, and polyphagia, with a 35 lb. (15.9 kg.) weight loss. At that time, he had started receiving protamine zinc insulin. Three years before the present admission, he had been hospitalized with an acute illness characterized by fainting and vomiting and had remained unconscious or delirious for five days. This was followed by the appearance of ankle edema that lasted three days and subsequently recurred repeatedly. About seven months prior to his admission to the Veterans Administration Hospital, he had begun to notice severe aches and cramping pains in his legs, which usually occurred in the evening while he was at rest. During this interval he had been taking protamine zinc insulin, but on one occasion he could obtain only regular insulin and found that after its administration he no longer experienced pain. From that time, he used regular insulin in the evening and rarely had pain. On occasion, he noted recurrence of swelling of his legs, pain, and oliguria (e. g., he could take a 400 mile trip as a truck driver without voiding). The patient had a history of scarlet fever at the age of six years and on one occasion had been told that he had a heart murmur. There was no family history of diabetes or nephritis.

Physical Findings.—The patient was poorly nourished and chronically ill. His temperature was 98.6 F, pulse rate 90 per minute, and blood pressure 100/75 mm. Hg. He was 67 in. (170.18 cm.) tall and weighed 129 lb. (58.5 kg.). His maximum weight had been 162 lb. (73.5 kg.) in 1934; his average weight was 138 lb. (62.6 kg.). There were small pinpoint aneurysms in the fundi, and there was fluffy exudate principally around the macula lutea. A harsh apical systolic murmur was heard. Massive pitting edema of the lower extremities extended upward to the knees.

Laboratory Findings.—A roentgenogram of the chest was normal. Intravenous pyelograms showed normal intrarenal structures with good excretion of the medium. Repeated urinalyses revealed specific gravities ranging from 1.010 to 1.021, constant proteinuria ranging from 1+ to 4+, and infrequent microscopic hematuria. Hemograms demonstrated an anemia with hemoglobin levels of 9.6 to 10.6 gm. per 100 cc. (Sahli method), red blood cell counts of 3.0 to 3.7 million per cubic millimeter, and hematocrits of 29 to 32%. The total and differential white blood cell counts were within normal limits. Blood chemistry determinations during his hospital course varied as follows: blood urea nitrogen from 20.0 to 65.4 mg. per 100 cc., fasting blood sugar from 56.5 to 89.0 mg. per 100 cc. (while receiving insulin), serum total proteins from 5.9 to 6.8 gm. per 100 cc., serum albumin from 3.8 to 4.2 gm. per 100 cc., serum globulin from 2.1 to 2.6 gm. per 100 cc., serum chloride from 91.9 to 110 mEq. per liter, serum sodium from 125.5 to 131.8 mEq. per liter, serum potassium from 5.1 to 8.5 mEq. per liter, carbon dioxide combining power from 16.0 to 26.8 mEq. per liter, serum creatinine from 2.2 to 3.0 mg. per 100 cc., serum calcium from 8.8 to 10.6 mg. per 100 cc., and inorganic phosphorus from 3.5 to 4.1 mg. per 100 cc. Phenolsulfonphthalein excretion was 6.4% in 15 minutes and 35.4% in two hours, while the blood urea clearance averaged 58.7% of normal. Venous pressure was 80 mm. of saline, and arm to tongue circulation time determined with dehydrocholic acid (Decholin) was 17 seconds. The patient's vital capacity was 4.2 liter (115% of normal).

Hospital Course.—The patient intermittently complained of unusual pain, described as a cramping, gnawing ache in his calves that spread to his upper extremities, hands, and jaws as it became severer. It was accompanied by a peculiar odor and taste that he described as similar to that of acetic acid. In addition, the patient noted extreme weakness while suffering this pain. On one occasion during his hospital course, he had an insulin reaction that was vigorously treated by the administration of orange juice and broth. After this therapy, the insulin reaction was alleviated; nevertheless, the severe pain recurred. It was suspected that the patient was suffering from a profound disturbance in mineral metabolism, since concentrations of ions exert an important, if not controlling, influence on neuromuscular irritability. This relationship has been expressed as follows:[5]

$$\text{Irritability} \propto \frac{Na^{+} + K^{+}}{Ca^{++} + Mg^{++} + H^{+}}$$

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Calcium was administered without effect. Since it was suspected that the patient had hyperkalemia, a low potassium diet of 2.5 to 4 gm. of potassium a day was instituted and appeared to benefit him clinically and chemically. Regular insulin also seemed to offer relief, more so than protamine zinc insulin. In order to test any causal relationships between the patient's pain and the hyperkalemia, various studies were performed.

In the first experiment (see table), serum levels of potassium, sodium, carbon dioxide combining power, calcium, and inorganic phosphorus were determined while the patient was fasting, after insulin was withheld, and after insulin was administered. While the patient was fasting and prior to the insulin administration, he had a characteristic episode of pain, weakness, and aberrations of taste and smell. At the same time, the serum potassium level rose from 7 to 8.4 mEq. per liter. Forty-five minutes after insulin injection, the pain had disappeared, and the serum potassium level was 6.5 mEq. per liter. The levels of the other chemistry determinations remained relatively unchanged with the exception of the carbon dioxide combining power, which was lower at each determination.

Three attempts to repeat this experiment in order to demonstrate concurrent electrocardiographic changes were unsuccessful; thus, the second experiment was conceived. In this experiment, the patient was given a solution of 1.14% potassium chloride intravenously after an ordinary breakfast but was not given insulin. He promptly experienced the characteristic pain, which progressed to an alarming degree of severity. Electrocardiograms and serum chemistry determinations were made prior to administration of potassium chloride solution, during the severe pain, and 45 minutes after administration of food and regular insulin. A rise in the level of serum potassium and electrocardiographic T-wave changes consistent with hyperkalemia were observed during the interval of severe pain. After insulin had been administered and coincident with the disappearance of pain, these changes reverted toward normal.

Relationship of Pain to Serum Electrolyte Levels

	Pain	Blood Chemistry Levels: Potassium, mEq./L.	Sodium, mEq./L.	Carbon Dioxide, mEq./L.	Calcium, Mg./100 Cc.	Phosphorus, Mg./100 Cc.
Experiment 1						
Fasting	Absent	6.9	125.8	20.4	8.6	4.9
Insulin withheld	Severe	8.3	129.3	20.6	9.0	4.8
45 min. after injection of insulin	Absent	6.5	130.0	12.9	10.0	4.8
Experiment 2						
Fasting	Beginning	7.0	144.7	22.6	9.6	...
After intravenous administration of 1.14% KCl solution	Severe	8.4	128.0	19.3	9.2	4.0
45 min. after injection of insulin	Absent	6.4	128.6	15.5	9.0	4.0
Experiment 3						
Fasting	Beginning	7.6	131.4	22.3	9.6	4.2
After intravenous administration of 5% glucose in water and insulin	Absent	4.7	132.2	15.1	9.0	2.6

A third experiment was performed to test the effect of suggestion on the pain. A solution of 5% glucose in water that contained the patient's regular dose of insulin was administered. This was falsely and clearly labeled as a solution of 1.14% potassium chloride. The patient thought that the previous experiment was being repeated, but he had no pain. His serum potassium level decreased, and T-waves became lower.

COMMENT

The nephrotic syndrome in Kimmelstiel-Wilson syndrome is characterized by varying degrees of oliguria, azotemia, edema, hypoproteinemia, and hypertension in association with diabetes.[6] At the time of admission, the patient had these symptoms excepting hypertension; however, hypertension appeared 20 months later. Oliguria, azotemia, and acidosis enhanced the potassium intoxication, while insulin and glucose administration decreased the serum potassium level. The mechanism of such decreases in potassium level is not well understood, although it is believed to involve the entrance of potassium into cells either by the specific action of insulin or, more probably, in association with the assimilation and storage of glucose within the cells.[7] Apparently, normal concentrations of intracellular potassium (80 mEq. per kilogram of tissue) and extracellular potassium (4 to 5 mEq. per liter) are necessary for normal neuromuscular function, since abnormal concentrations result in abnormal excitation waves along the nerve fibers.[8] This case report demonstrates the association of hyperkalemia with sensory nerve dysfunction characterized by pain, skeletal muscle abnormalities including weakness, and abnormal electrocardiographic changes. Although parasthesias have been described in association with hyperkalemia, none of the descriptions resemble the pain experienced by this patient.

SUMMARY

A case of unusual pain in a patient with Kimmelstiel-Wilson syndrome associated with potassium intoxication is reported. The pain was alleviated by administration of insulin and glucose. The mechanism of this pain is not well understood nor is the mechanism of lowering serum potassium levels by administration of glucose and insulin. In addition, the report illustrates the possible danger of treating a diabetic patient who has renal disease (e. g., Kimmelstiel-Wilson syndrome) with fluids that are rich in potassium, such as orange juice and broth. The necessity for prompt recognition and early treatment of potassium intoxication in patients with diabetes is emphasized.

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HEMORRHAGE DUE TO SELF-MEDICATION WITH BISHYDROXYCOUMARIN

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Bishydroxycoumarin (Dicumarol) has been a useful agent in the therapy of thromboembolic disease, although, even when carefully controlled, there is an appreciable risk of hemorrhage (4 to 10%) associated with its administration and the subsequent therapeutic hypoprothrombinemia. Obviously, excessive dosage or an unusually sensitive prothrombin mechanism may further increase the risk of bleeding.

This report deals with a patient who was observed and studied and in whom profound hypoprothrombinemia and serious bleeding occurred on two occasions secondary to bishydroxycoumarin administration, apparently self-administered as a manifestation of malingering. The causative role of bishydroxycoumarin was documented by obtaining an elevated value for the plasma level of the drug one month after the last acknowledged dose of the drug.

REPORT OF CASE

A 36-year-old graduate nurse was admitted to Presbyterian Hospital on Dec. 5, 1950, with generalized bleeding of two days' duration. Her history included inactive rheumatoid arthritis; inactive rheumatic heart disease, with mitral insufficiency; an undiagnosed gastrointestinal disorder ultimately classified as functional and characterized by recurrent nausea, vomiting, diarrhea, and abdominal pain in sufficient degree to warrant sedation and narcotic administration; a traumatic right facial paralysis since childhood, repaired by a fascial graft in 1950; two occasions on which it was documented that she intentionally raised the thermometer reading to stimulate an elevation of temperature to 101 and 103 F following the facial nerve plastic operation; recurrent right flank colic, which was allegedly severe enough to warrant the use of morphine for pain relief and about which a urologic investigation revealed nothing abnormal; and her husband's death, in 1949, after a long illness caused by carcinoma of the colon. During an interview with a psychiatrist in 1950 with reference to her diarrhea, the woman was described as an intelligent person who was both evasive and hostile and who exhibited both guilt and hostility toward her husband who had just died. Since his death she had been profoundly depressed.

During the third week of November, 1950, the patient consulted her family physician with complaints of swelling, pain, and tenderness in the right leg of six days' duration. This was diagnosed as phlebitis, and bishydroxycoumarin administration was begun at home; the woman was given a prescription for the drug by her physician. She stated that she took this medication once daily during the next seven days as ordered by her physician in the following dosage schedule: 300, 200, 100, 50, 0, 50, and 50 mg. In this week, her prothrombin time rose steadily from the normal value of 13 seconds to a maximum of 25 seconds. Her family physician stated that the laboratory that performed the prothrombin test had been reliable in the performance of this particular coagulation test.

Three days prior to admission and seven days after beginning anticoagulant therapy, despite a prothrombin time of only 25 seconds, the woman reported oozing from a venipuncture site on the forearm and was instructed by her physician to take no more bishydroxycoumarin. On the subsequent day, gingival and vaginal bleeding appeared; this was followed by several epistaxes and pain in the right flank. On the day of admission, she voided grossly bloody urine. Because of severe flank pain, she received three injections of meperidine (Demerol) hydrochloride. On examination at this hospital, widespread ecchymoses of the skin and gingival and tongue bleeding, as well as flank tenderness, were observed. The urine was grossly bloody.

The pertinent laboratory data were confined to the coagulation mechanism; the whole plasma prothrombin time[1] was reported as greater than 300 seconds (normal 15 ± 1 second) on two tests. The woman was given a total of 150 mg. of vitamin K_1 and 72 mg. of water soluble vitamin K intravenously, with a return of the prothrombin time to 27, 20, and 15 seconds at 6, 18, and 30 hours, respectively, after the antidotal therapy was initiated. Hemorrhagic phenomena subsided satisfactorily. During the first 48 hours in the hospital, she required 12 injections of methadone (5 mg. each) for alleged pain.

On the fifth hospital day (two days after the initial hypoprothrombinemia had been restored to normal), the prothrombin time was found to have increased to 19 seconds and then during the next 48 hours to 26 and 29 seconds. The patient denied having taken any bishydroxycoumarin during the preceding eight days. This was the first instance at this institution in which an apparent rebound hypoprothrombinemia followed vitamin K and vitamin K_1 therapy. On the assumption that large body stores of bishydroxycoumarin might be the mechanism for such a rebound, 100 mg. of vitamin K_1 were given with prompt return of the prothrombin time to 17 seconds and then to 16 seconds on the two subsequent days. She was discharged from the hospital on December 12 without having had any evidence of active bleeding for six days and with the prothrombin time of 16 seconds. She was advised not to take any more bishydroxycoumarin under any circumstances.

On Dec. 29, 1950, the woman was readmitted because of hematuria and low back pain. She stated that since her discharge on December 12, bleeding from the vagina, skin, gums, and bladder had been continuous. She denied having taken any bishydroxycoumarin since December 1, preceding her first admission. The patient was covered with numerous large and small ecchymoses. Evidence of a deep muscular hemorrhage was evident in the right calf. There was exquisite bilateral flank tenderness and pain, with gross hematuria. Because of complaints of severe flank pain, five hypodermics of meperidine hydrochloride and two of sterile saline were given during her first 24 hours in the hospital.

The prothrombin time was 300+ seconds and the Lee-White venous clotting time was 45 minutes. Thirty-six hours after the administration of 144 mg. of menadione sodium bisulfite (Hykinone) and 350 mg. of vitamin K_1, the prothrombin time returned to 16 seconds. The urine cleared of blood, and there were no further evidences of active bleeding. On December 31, 30 days after what the patient stated was the last time she took bishydroxycoumarin, a blood level[2] for bishydroxycoumarin (performed through the courtesy of Dr. Murray Weiner) was found to be significantly elevated (about 10 mg. per liter). She was discharged from the hospital on Jan. 3, 1951.

Eight months later she was readmitted to the urologic service because of flank pain of undetermined cause. She was refused narcotics and was given sterile saline hypodermically, which appeared to control her pain during the five days in the hospital. She reported that no further hemorrhagic phenomena had occurred since her last discharge from the hospital in January, 1951.

COMMENT

In 1951, Stafne and Moe[3] reported on a patient with severe hemorrhage attributable to self-medication with excessive amounts of bishydroxycoumarin. In 1952, Wright and his associates[4] discussed four patients who were considered to be malingerers and in whom there

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had been observed hemorrhagic manifestations due to hypoprothrombinemia secondary to surreptitious ingestion of bishydroxycoumarin. It is of interest that, of the six patients, including the subject of this report, who presented this syndrome, four were graduate nurses and one a physician. Moreover, in each person, there were clinical manifestations of either significant psychiatric aberration or of intent to obtain excessive amounts of narcotics by means of the presenting situations.

The hypoprothrombinemia observed on the first admission of this patient could have represented an unusual sensitivity to bishydroxycoumarin or could have been the result of an error in laboratory technique. The factors in her psychiatric background, however, together with her excessive demands for narcotics raised at the onset some suspicion regarding etiology. When the hypoprothrombinemia returned two days after the prothrombin time had initially been restored to normal, the suspicion of self-medication was strengthened, although undocumented. Such hypoprothrombinemic relapses have been remarked upon by other investigators, although this phenomenon had not previously been observed at this institution. Furthermore, the amount of bishydroxycoumarin that the woman admitted taking was not of massive dosage.

On her second admission the inconsistencies of her history regarding persistent bleeding together with the profound hypoprothrombinemia, despite the alleged absence of bishydroxycoumarin ingestion for 27 days, were too striking to ignore further. This clinical impression of self-medication was confirmed by the prompt return of the prothrombin time to normal after vitamin K therapy and specifically by the finding of the appreciably elevated plasma concentration of bishydroxycoumarin.

In the differential diagnosis of hemorrhagic disorders, it becomes necessary to include the entity of self-induced hypoprothrombinemia. This diagnosis can be established by means of a plasma level determination [5] for the coumarin compound despite denial by a malingerer. Wright [4] reported a case of bishydroxycoumarin self-medication as having been documented by an elevated blood level for the drug.

The fact that bishydroxycoumarin has been reported to be the commonest current cause of fatalities resulting from drugs given orally,[6] an indication of its potential lethal properties, and the availability of such an extremely effective antidote as vitamin K_1 for this type of prothrombin deficiency makes this entity of significant practical importance. Certainly, the possibility of administration of bishydroxycoumarin as a manifestation of malingering or even its administration with criminal intent must be investigated and excluded before a diagnosis of idiopathic hypoprothrombinemia may be safely entertained in any instance of prothrombin deficiency.

SUMMARY AND CONCLUSIONS

A 36-year-old nurse induced a profound prothrombin deficiency and severe bleeding on two occasions by means of excessive self-medication with bishydroxycoumarin (Dicumarol). Despite denials by the patient, the causative role of bishydroxycoumarin in this hemorrhagic diathesis was proved by determining that the woman had a significant blood level for the medicament one month after the last admitted ingestion of it. This self-medication was believed to be a manifestation of malingering, secondary to psychiatric aberrations and a desire for narcotics. The possibility of self-medication with bishydroxycoumarin as a manifestation of malingering or even its administration with criminal intent must be considered and evaluated before a diagnosis of hemorrhagic diathesis caused by idiopathic hypoprothrombinemia can be established.

620 W. 168th St. (32).

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GASTROINTESTINAL HEMORRHAGE DUE TO RUPTURE OF AORTIC ANEURYSM INTO THE ESOPHAGUS

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Rupture of an aortic aneurysm into the gastrointestinal tract has been encountered twice at the Rhode Island hospital during the past 25 years. In one instance, the duodenum was involved, while in the other there was spontaneous rupture of an aneurysm of the descending aorta into the esophagus. This latter is the subject of our report, because it illustrates that the diagnosis of aorticoesophageal fistula should be considered in a patient with gastrointestinal hemorrhage, when an aneurysm of the thoracic aorta is also present.

REPORT OF A CASE

In September, 1951, a 65-year-old white man was admitted for the sixth time. His chief complaint was hematemesis of 36 hours' duration. He had been admitted to the hospital before because of central nervous system syphilis for which adequate, large doses of penicillin were administered. On admission, the patient was confused and was unable to give a coherent history. The only information obtained was that he was given some medicine to take orally by a local physician. After taking three doses, he began to vomit bright red blood and to pass gross amounts of blood rectally. This occurred several times, and the patient was admitted to the hospital as an emergency case.

The patient was a well-developed, thin, very pale white man. Physical examination revealed that the pupils were constricted and did not react to light. The temperature was 99 F (37.2 C), pulse 84, respirations 20, and blood pressure 90/58 mm. Hg. Lungs were clear to percussion and auscultation. Examination of the heart was not remarkable except for the presence of auricular ectopic beats. The abdomen was soft; it was not tender. No masses or organs could be palpated. Rectal examination was not remarkable.

Laboratory studies showed hemoglobin level, 5.8 gm. per 100 cc.; white blood cells, 12,700 per cubic millimeter; bleeding time, 1.5 minutes; clotting time, 6.5 minutes; prothrombin activity, 80%; sulfobromophthalein (Bromsulphalein) reten-

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tion, 9% in 45 minutes; blood urea nitrogen, 57 mg. per 100 cc.; glucose, 97 mg. per 100 cc.; thymol turbidity, one unit; total protein, 5.8 gm.; albumin, 4.2 gm.; and hematocrit, 22. Reaction to the Hinton test was doubtful. A chest film showed widening of the mediastinum. A calcified placque was present in the aortic knob. The findings were thought to be consistent with an aneurysm of the aorta (fig. 1). A roentgenogram of the chest taken in February, 1950, had revealed a tortuous and sclerotic aorta (fig. 2). An electrocardiogram was normal.

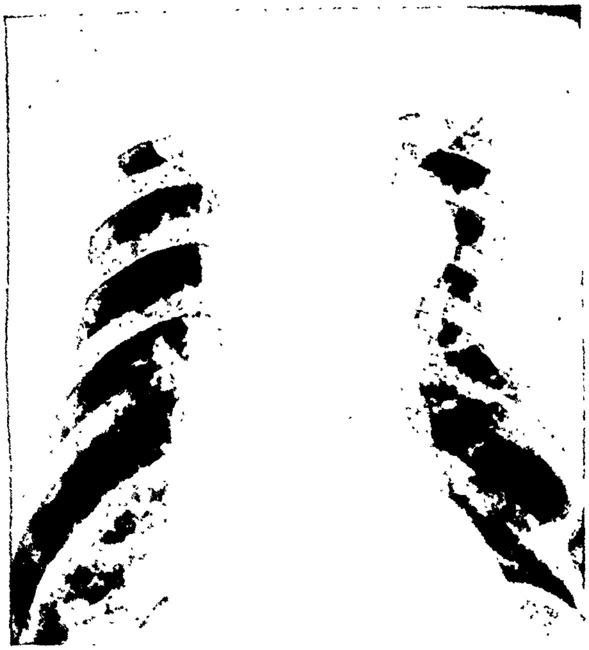

Fig. 1.—Roentgenogram taken in September, 1951, showing considerable increase in the width of the upper mediastinal shadow thought to be consistent with an aneurysm of the aorta.

While in the hospital, the patient was treated with progressive Sippy diet, tincture of belladonna, meperidine (Demerol) hydrochloride, and whole blood. During the second hospital day, he vomited bright red blood on several occasions in amounts varying from 100 to 400 cc. Thereafter hematemesis ceased, the hematocrit stabilized, and the patient appeared somewhat improved. After a total of 6 pints (3 liters) of blood was administered, the hematocrit rose to 30. Seven days after admission, results of a guaiac test were negative for blood in the stool. On the ninth hospital day, there was a sudden episode of hematemesis, and the patient died suddenly. The gross findings at necropsy included saccular aneurysm; descending aortic arch, with rupture into esophagus; gastrointestinal hemorrhage; and syphilitic aortitis.

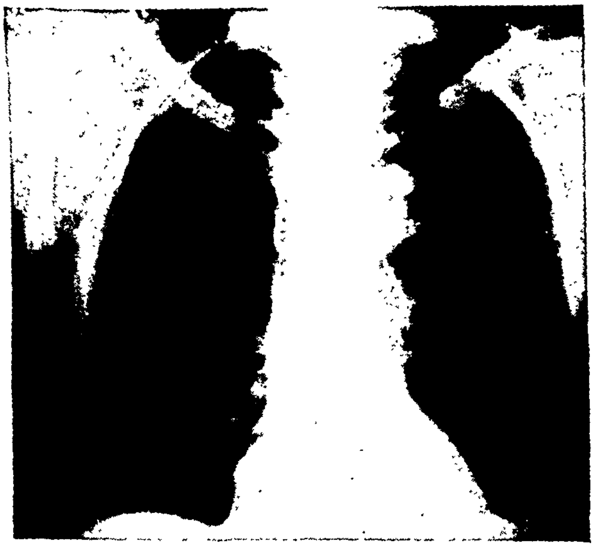

Fig. 2.—Roentgenogram taken in February, 1950, showing tortuous and sclerotic aorta, with slight cardiac enlargement.

COMMENT

Perforation of an aortic aneurysm into the gastrointestinal tract is an extremely rare cause of hematemesis and melena. In 1943, Rottino [1] was able to collect 32 cases. Hunt and Weller,[2] in 1946, added nine more cases and, since that time, others have reported this entity bringing the total up to 55 [3] in 1951. All these resulted from rupture of an abdominal aneurysm into the stomach or small bowel. Gastrointestinal hemorrhage secondary to perforation of a thoracic aneurysm into the esophagus is even more unusual, since in the last 27 years only five such cases have been described in the world literature.[4]

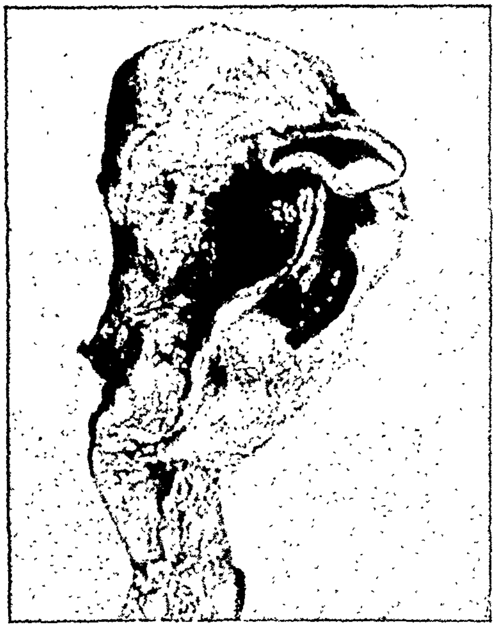

Fig. 3.—Necropsy specimen revealing aortico-esophageal fistula.

SUMMARY AND CONCLUSIONS

A case of spontaneous perforation of a syphilitic aneurysm of the descending aorta into the esophagus, with hematemesis and melena, is presented.

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DEATH FOLLOWING THE USE OF EFOCAINE

REPORT OF A CASE

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The purpose of this paper is to present the case report of a patient whose death followed intercostal injection of Efocaine. Efocaine is a solution of 1% procaine, 0.25% procaine hydrochloride, and 5% butyl-*p*-aminobenzoate in a solvent composed of 2% polyethylene glycol-300, 78% propylene glycol, and water.

A need has long been felt for a safe local anesthetic agent with a prolonged action. Until recently, Efocaine seemed to meet these requirements, and the drug has been used for many purposes. In proctology these purposes include relief of pain of fissure and fistula in ano, control of posthemorrhoidectomy pain, and relief of pruritus ani; in obstetrics and gynecology for cesarean section, episiotomy, and hysterectomy; in abdominal surgery for hernia, cholecystectomy, and gastrectomy; in dermatology for pruritus; and for prolonged control of pain following various chest operations, trauma to the chest, and pleurisy.[1]

In recent months clinical evidence from case reports seems to indicate that Efocaine has not met one vital pharmacological requirement, i. e., safety. Following its use, there have been reports of perirectal sloughs, unilateral anhidrosis, severe neuralgia persisting for weeks, postinjection neuritis and pain, long-lasting and probably permanent motor paralyses of the lower extremities, and atonic bladders.[2] The following case is the first known in which death is attributed to the use of Efocaine.

REPORT OF CASE

A 55-year-old white man had had bilateral pulmonary tuberculosis since August, 1946. He had been treated by thoracoplasty, paraffin packs, and a rib resection for a complicating empyema. An electrocardiogram taken six months before his last admission indicated normal function. A hemogram at that time revealed no abnormalities. The latest roentgen examination of his chest had revealed an extensive right thoracoplasty and the presence of a large pack in the upper right and the upper left thorax. There was encapsulated fluid in the right pleural cavity.

Since the patient had severe intercostal neuralgia on the right side, an intercostal nerve block with Efocaine was decided upon as the treatment of choice. The procedure was done during an office visit, the patient being entirely ambulatory. The site chosen for injection was the right eighth intercostal space in the posterior axillary line, well away from the spine. A 21 gage, 1½ in. (3.7 cm.) needle was employed, and the procedure was done slowly but without aspirations. During the injection, after approximately 1.5 cc. of Efocaine had been administered, the patient suddenly complained of severe, electric, knife-like pains in his back that radiated down both legs. The patient became extremely pale and collapsed. The legs then became completely paralyzed over a period of not more than several minutes. The pain in the right side of his chest became severer and was associated with shortness of breath. Oxygen therapy was instituted. The patient complained of no nausea, vomiting, headache, or abdominal pain. He was immediately taken to the hospital by ambulance.

Physical examination on admission revealed the pulse to be 124, the blood pressure 110/70 mm. Hg, and the temperature 97 F. There was a flaccid paralysis of both lower extremities, and the deep reflexes in these areas were absent. Sensations were absent below the 10th dorsal level on the right and the first lumbar segment on the left. The bladder was atonic. The sensory and motor reflexes of the upper extremities were intact. The remainder of the physical examination revealed no significant abnormalities except for the presence of an old drainage tube in the wall on the right side of the chest.

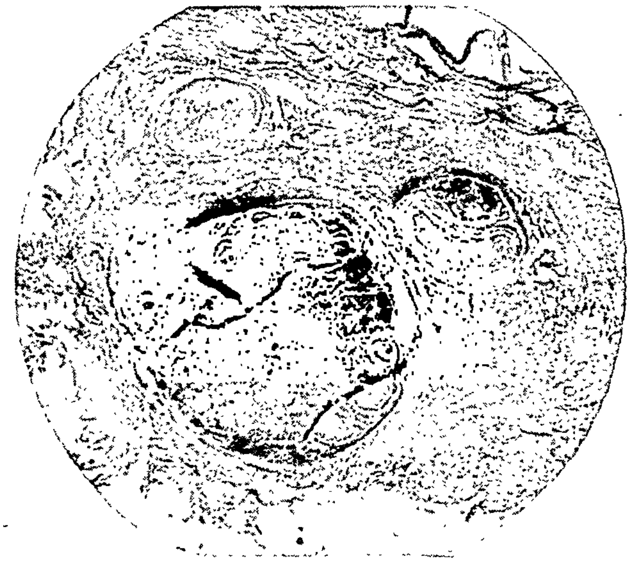

Fig. 1.—Photomicrograph showing dilatation and recent thrombosis of the eighth intercostal vein and thrombosis of the corresponding artery (X 5.3).

The laboratory findings revealed the hemogram and the white blood cell count to be within normal limits. A spinal puncture revealed the initial pressure to be 340 mm. H_2O, with good fluctuation of pressure. The spinal fluid was clear and contained 295 mg. of proteins, 385 mg. of chlorides, and 85 mg. of sugar per 100 cc. No cells were present in the spinal fluid. Roentgenograms of the thoracic spine revealed no significant abnormality except the thoracoplasty on the right and bilateral pleural packs.

On the day following admission, the patient's blood pressure was 170/90 mm. Hg and the pulse was 124. The temperature was 98.8 F. There was sinus arrhythmia and slight cyanosis. The respiration rate was 32, and the respirations were entirely diaphragmatic in nature. The patient complained of numbness in his fingers, but the sensations were intact. On the third hospital day, the respirations were gasping and the pulse and

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From the departments of surgery and pathology, Wesley Memorial Hospital and Northwestern University Medical School.

The procaine analysis of the spinal fluid was made by E. J. Fitzsimons, Ph.D., Department of Pathology, Wesley Memorial Hospital.

[1] Iason, A. H., and Shaftel, H. E.: A New Approach to the Problem of Postoperative Pain, Am. J. Surg. **83**: 549, 1952. Puderbach, W. J., and Shaftel, H. E.: Prolonged Intercostal Nerve Block in Upper Abdominal Surgery, Journal-Lancet **72**: 200, 1952. Gross, J. M., and Shaftel, H. E: The Role of Efocaine in Anorectal Anesthesia and Analgesia, New York J. Med. **52**: 1413, 1952. Deaton, W. R., Jr., and Bradshaw, H. H.: A Long-Lasting Anesthetic Solution—Use in Thoracic Surgery, Am. Surgeon **18**: 616, 1952. E. Fougera and Co., Inc., brochure. Tucker, C C.: The Control of Postoperative Pain in Anorectal Surgery, J. Kansas M. Soc. **53**: 230, 1952. Ansbro, F. P., and others: The Development of Efocaine, A New Approach to Prolonged Local Anesthesia, Anesthesiology **13**: 306, 1952. Bartlett, R. W., and Eastwood, D. W.: Long-Acting Bilateral Intercostal Nerve Block for Upper Abdominal Surgery, Surgery **32**: 956, 1952. Raicus, E.: Postoperative Anesthetics in Anorectal Surgery, Med. Times **80**: 156, 1952.

[2] (*a*) Moore, D. C.: Complications Following the Use of Efocaine, Surgery, to be published. (*b*) Shapiro, S. K., and Norman, D. D.: Neurological Complications Following the Use of "Efocaine," J. A. M. A. **152**: 608-609 (June 13) 1953. (*c*) Bonica, J. J.: Management of Intractable Pain with Analgesic Blocks, ibid. **150**: 1581-1586 (Dec. 20) 1952.

blood pressure could not be obtained. Artificial respiration was given, the patient was placed in an Emerson respirator, and *l*-arterenol bitartrate was administered intravenously. The patient died on the third hospital day, 44 hours after the onset of his present illness.

At autopsy, the important findings included acute thrombophlebitis of the eighth intercostal vein and recent thrombus in the corresponding artery; focal necrosis and acute inflammation of the spinal cord; petechiae of the pons and medulla; bilateral bronchopneumonia; chronic fibroid pulmonary tuberculosis with cavitation in the upper lobe of the right lung; chronic empyema of the right pleural cavity with pleurocutaneous fistulas; evidence of an old right thoracoplasty with subscapular paraffin pack; and a left extrapleural paraffin pack.

A needle puncture wound was present on the skin of the eighth intercostal space at the posterior axillary line, approximately 8 cm. lateral to the root of the eighth intercostal nerve. The lateral expansion of the subarachnoid space along this nerve was less than 1 cm. in length. The intercostal vein immediately beneath the needle puncture was dilated, acutely inflamed, and filled with a recent thrombus. The accompanying intercostal artery was occluded by a recent thrombus and it was compressed by an extravascular mass composed of red blood cells and inflammatory cells at one side (fig. 1).

The spinal cord was diffusely hyperemic and had three longitudinal, oval-shaped, soft, grayish white, elevated areas on the dorsal aspect of the lower dorsal and lumbar portions. These had maximum measurements of 1.5 by 0.7 cm., 1.7 by 0.7 cm. and 1.8 by 0.7 cm. and were located 1.0, 5.5, and 10 cm. away from the tip of the conus medullaris (fig. 2). Microscopic examination of these lesions disclosed marked hyperemia of the leptomeninges and extensive necrosis and acute inflammation of the spinal cord. The necrosis involved the dorsal funiculi, portions of the lateral funiculi, and the posterior and anterior columns (fig. 3). Focal necrosis associated with slight acute inflammation involving a portion of the dorsal funiculi and the anterior and posterior columns was seen in the sections made through the spinal cord between the lesions. The upper dorsal and the cervical portions of the spinal cord revealed hyperemia of the leptomeninges and of the gray and white matter. Sections of the pons and medulla revealed multiple tiny perivascular hemorrhages and hyperemic leptomeninges.

The immediate cause of death was considered to be respiratory paralysis and/or bronchopneumonia. The petechiae in the pons and medulla are consistent with the clinical course, which included signs of respiratory paralysis.

The spinal fluid was tested for procaine by the methods of Woods and co-workers [4] and of Sanchez.[5] Positive results were obtained by both methods. A semiquantitative estimation of the amount of procaine present indicated an approximate concentration of 50 mg. per 100 cc. Normal spinal fluid gave negative results.

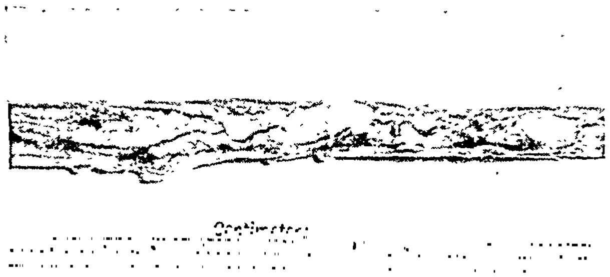

Fig. 2.—Photograph of the spinal cord showing three longitudinal, oval-shaped foci of myelomalacia and engorgement of the blood vessels.

COMMENT

The exact route by which the Efocaine traveled to produce its lethal effect on the spinal cord is somewhat in doubt. Two possible pathways are the intercostal vessels and the perineural sheath.

Factors in favor of the spread by means of the intercostal vessels are (1) the recent thrombus noted in the intercostal vein at autopsy; (2) the rapid development of spinal cord symptoms that began while the Efocaine was being injected; (3) the existence of a venous plexus that is much richer close to the vertebral column [6]; (4) the presence of an anastomosis between the intercostal veins and the internal vertebral plexus through the azygos system and the ascending lumbar veins [6]; and (5) the greater capacity of the veins as compared with that of the perineural sheath.[6]

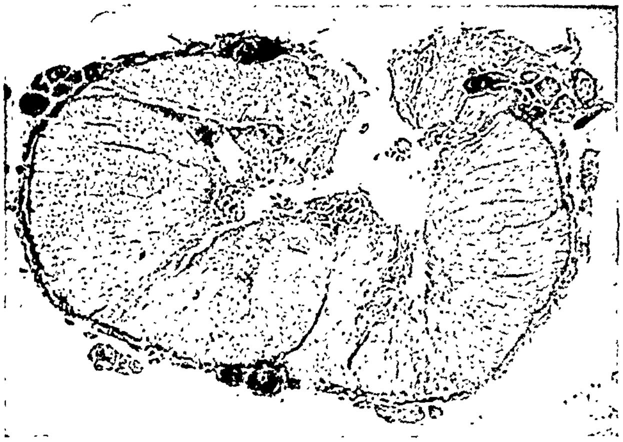

Fig. 3.—Cross-section of the spinal cord through the inferior lesion showing necrosis of dorsal and lateral funiculi and anterior and posterior columns (× 4.5).

Factors in favor of the spread by means of the perineural sheath are (1) no immediate generalized effect was noted in the patient; (2) the fact that the perineural sheath has a direct communication by way of the spinal roots with the spinal cord [6]; and (3) the fact that indigo injected into the sciatic nerve at the sciatic notch can be demonstrated in the subarachnoid space, usually within minutes or hours.[2a] Certainly more experimental investigation needs to be done on the possible pathways of transmission in this area.

SUMMARY AND CONCLUSIONS

In view of the severe complications of transverse myelitis, toxic neuritis, and now death, which have been reported following the use of Efocaine, it is recommended that its use be greatly curtailed and that the drug be used with extreme caution. The case of a patient who died after the intercostal injection of Efocaine is reported. Autopsy disclosed thrombophlebitis of the intercostal vein at the site of the injection and marked necrosis and inflammation of the spinal cord. We believe that Efocaine, since it may produce myelitis and even death, should not be used for local anesthesia, especially in a region near a vital organ such as the spinal cord.

250 E. Superior St. (Dr. Angerer).

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3. Deleted on proof.

4. Woods, L. A., and others: Estimation of Amines in Biological Materials with Critical Data for Cocaine and Mescaline, J. Pharmacol. & Exper. Therap. **101**: 188-199 (Feb.) 1951.

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6. Anson, B. J.: Personal communication to the authors.

CARCINOMA OF THE CERVICAL ESOPHAGUS AND LARYNX

TREATMENT OF AN ELDERLY PATIENT BY ESOPHAGOLARYNGECTOMY (WOOKEY OPERATION)

Conrad R. Lam, M.D.
and
E. J. Gordon, M.D., Detroit

It is well known that some malignant tumors, especially in elderly persons, grow slowly, and, if they are excised, the prospects for cure are excellent. This case is reported because it illustrates the difficulty in the early diagnosis of lesions that produce dysphagia and the possibilities of cure by operation in carcinoma of the cervical esophagus even after the symptoms have been present for many months and after the larynx has become involved.

REPORT OF A CASE

A 78-year-old white woman was admitted to the Henry Ford Hospital on June 21, 1952. She had noted difficulty in swallowing early in 1950, and roentgenography of the esophagus had been carried out in June of that year (fig. 1*A*); no organic lesion could be seen. The patient was reassured, and during the next year she was able to eat fairly well. Then there was a gradual recurrence of symptoms, and on May 2, 1952, the esophagus was again examined by barium swallow. The report of this examination was as follows: "There is a defect in the barium column involving the upper end of the esophagus which is quite suggestive of new growth. The lesion measured approximately 4 centimeters in length and reduces the esophageal lumen to one centimeter in diameter. The filling defect in the upper esophagus is associated with thickening of the retrotracheal tissues" (fig. 1*B* and 1*C*).

During the three months preceding her admission to the hospital, the dysphagia had become progressively worse, so that only liquids could be swallowed. After the first few days in the hospital, the obstruction became complete and parenteral feeding was necessary. Palpation of the neck revealed some thickening of the structures behind the larynx but no definite fixation. There was one small lymph node palpable in the right anterior cervical triangle, but this was soft and did not suggest malignant invasion. The vocal cords were examined and appeared to be normal. Esophagoscopy by Dr. Donald Bolstad revealed a large ulcerating lesion at the introitus of the esophagus, more prominent on the right. There appeared to be complete obstruction. Tissue that had been removed for biopsy was reported to show squamous cell carcinoma, grade 2.

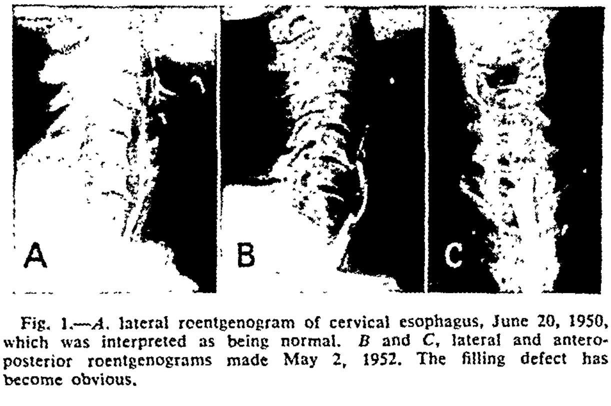

Fig. 1.—*A*, lateral roentgenogram of cervical esophagus, June 20, 1950, which was interpreted as being normal. *B* and *C*, lateral and anteroposterior roentgenograms made May 2, 1952. The filling defect has become obvious.

In 1942, Wookey[1] described a surgical procedure of two stages that made it possible for a patient to breathe and eat after excision of a tumor involving the upper esophagus and larynx. He had operated on four patients whose ages were 50, 62, 52, and 58. The larynx had been removed in only one of these. Two patients were well at the time of the report, with follow-up periods of three years and six months, respectively. Two had died of recurrence after two years and six months, respectively.

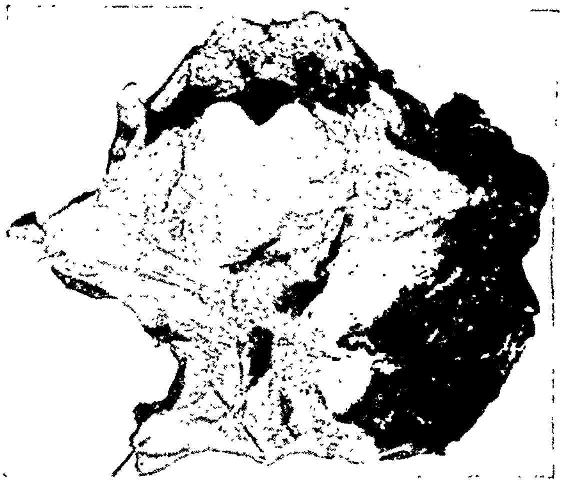

Fig. 2.—Posterior view of excised specimen, with esophagus opened to show the ulcerating carcinoma constricting the lumen. On the right is the right lobe of the thyroid gland and near the top is the opening of the larynx, with the prominent white arytenoid cartilages.

Wookey's operation may be described briefly as follows: At the first stage, a rectangular skin flap, with its base on the right, is reflected from the anterior part of the neck. The left lobe of the thyroid gland is mobilized and removed, unless it is invaded by tumor, in which case it is left attached to the specimen. Tapes are passed around the trachea and esophagus below the tumor and around the hypopharynx above. The trachea is transected just above the suprasternal notch, and an intratracheal tube is inserted for the administration of the anesthetic agent during the rest of the operation. The esophagus is transected below the tumor after traction sutures are placed in the distal end to prevent its retraction into the mediastinum. The tumor mass is separated from the left lobe of the thyroid, unless the latter is involved; the hypopharynx is divided between the hyoid bone and the larynx; and the specimen consisting of the lower hypopharynx, larynx, portions of the trachea and esophagus, and one or both lobes of the thyroid is then removed. Esophageal reconstruction is begun at this stage by connecting the pharynx and distal esophagus with a deep fissure made from the skin flap from the anterior surface of the neck. The remaining raw surface is covered with a split-skin graft. The cervical fissure is closed four weeks later to make a tube, which completes the esophageal continuity. In the interim between the stages, saliva escapes freely from the fissure onto dressings and feeding is accomplished through a tube passed through the nose into the stomach. If the tube irritates the nasal passages, it can be passed directly into the thoracic esophagus through the fissure.

Wookey's operation was offered to our patient, and it was readily accepted. The first stage was carried out without incident on July 12, 1952. The right lobe of the thyroid gland was invaded by tumor, and it was removed with the rest of the mass. The lymph node, which had been palpated before operation, was excised separately. Examination of the specimen showed that the primary tumor and its local extension had been removed, with a fairly adequate margin in all directions (fig. 2).

The pathological report was as follows: "The specimen consists of a larynx upon the posterior surface of which there is a portion of the esophagus which has been opened. The

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From the Division of General Surgery of the Henry Ford Hospital.

Because of lack of space, figure 3 has been omitted from THE JOURNAL and will appear in the authors' reprints.

[1] Wookey, H.: The Surgical Treatment of Carcinoma of the Pharynx and Upper Esophagus, Surg., Gynec. & Obst. 75:499, 1942.

mucosa of the upper two centimeters is light gray and pearly in appearance. Below this point there is a very large shallow ulcerated area which measures four centimeters in length and which completely encircles the esophagus. There appears to be only about six millimeters of intact esophageal mucosal margin at the lower end. Sections through several portions of the ulcer show widely infiltrating carcinoma of the squamous type. Numerous epithelial pearls are present. The edges of this growth are adjacent to the normal stratified squamous epithelium of the esophagus and appear to be arising from it. Section of the accompanying lymph node shows no evidence of tumor invasion. Impression: squamous cell carcinoma of the esophagus, grade II." (Dr. F. W. Hartman)

The first stage of the operation was well tolerated by the patient. Tube feedings during the ensuing weeks consisted of homogenized food prepared in a Waring Blendor under the direction of Dr. James Barron. The tracheotomy tube was removed permanently at the end of three weeks. At the second stage, on Aug. 8, the cutaneous fissure was converted into a tube and the outside raw surface was covered by skin from the right lateral portion of the neck. This skin was sutured under considerable tension, with the result that a part of the suture line of the tube was disrupted and two further minor procedures, on Aug. 25 and Sept. 18, were necessary before final closure of the reconstructed esophagus was obtained. The patient was discharged on Sept. 28, at which time she was eating a soft diet.

The patient leads a remarkably normal life at home. She eats at the family table, since she requires no special diet. The tracheostomy is inconspicuous, but she prefers to cover it with a lace dickey (fig. 3). She is able to speak whispered phrases that are audible across the room. No attempt has been made to teach her the more extensive esophageal speech such as many patients who have undergone laryngectomy are able to master. Examination of the neck eight months after the first operative stage revealed no evidence of local recurrence of the tumor.

SUMMARY

A woman of 78 years with a history of difficulty in swallowing over a period of more than two years was found to have carcinoma of the cervical esophagus with involvement of the larynx. Surgical treatment by the method of Wookey (cervical esophagolaryngectomy with cutaneous esophagoplasty and permanent tracheostomy) gave gratifying results. The more frequent and early use of the esophagoscope in the diagnosis of lesions that produce dysphagia is suggested.

2799 W. Grand Blvd. (2) (Dr. Lam).

Medical Society Problems.—My discussions in individual meetings with physicians during the past year lead me to the conclusion that, in spite of the information issued through our publications and notices, only a minority of our members realize the full extent of the activities of the Rhode Island Medical Society. Where once we met to discuss some single problem of medical education or a major public health proposal as the only item of business at our Council or House of Delegates meeting, we now face a long agenda supplemented with detailed reports touching upon activities in many fields. Thus we find ourselves resolving matters of air and water pollution, disability compensation for off-the-job injuries and illnesses, civilian and military disaster programs, prepayment insurance for surgical and medical care, health education through such programs as diabetes detection, public information through press, radio, and television, nutritional guidance, public assistance services, financial support for medical education, and legislative proposals ranging from licensure in the healing art to the control of fireworks to prevent injuries.—Albert H. Jackvony, The Medical Society and Medical Character, presidential address before the Annual Meeting of the Rhode Island Medical Society, May 6, 1953, *Rhode Island Medical Journal,* June, 1953.

NATURE OF SPONTANEOUS AURICULAR FLUTTER IN MAN

REPORT OF A CASE OBSERVED DIRECTLY DURING CARDIAC SURGERY

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Alfred Goldman, M.D.
Eleanor Gerlach
and
Rexford Kennamer, M.D., Los Angeles

The mechanism of auricular flutter has become a subject of increasing controversy during the past several years. In 1887, McWilliam [1] introduced the term "flutter" to describe an experimentally produced disturbance in the dog's heart and suggested that the arrhythmia consisted of recurrent impulses radiating in all directions from a single ectopic focus. Subsequent investigators [2] developed the concept of "circulating rhythms," which, in 1918, was applied to the fluttering auricles in man and experimental animals by Sir Thomas Lewis.[3] Lewis' classic circus movement theory was not seriously questioned until 1932, when Brams and Katz [4] reported that flutter produced by electric stimulation failed to end after the hypothetical circus pathway was severed. Certain mathematical inconsistencies in Lewis' calculations were noted by Weiner and Rosenblueth in 1946 [5] and by Selfridge [6] in 1948. Scherf's studies of aconitine-produced flutter, during 1948 and 1949, [7] revealed that cooling or clamping of the aconitine focus restored normal sinus rhythm, while interruption of the circus pathway did not produce changes in the flutter electrocardiograms. From 1946 to 1950 in innumerable instances, flutter produced in this laboratory by local application of aconitine or electric stimulation failed to show circus movement; direct observation by means of high speed cinematography and direct lead electrocardiography established the fact that the flutter wave arose at the experimentally produced ectopic focus and spread outward in all available directions simultaneously, as originally supposed by McWilliam.[8] Rosenblueth [9] maintains, on the other hand, that auricular flutter produced by his crush method is entirely compatible with the circus movement theory. A recent

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This study was aided by grants from the L. D. Beaumont Trust Fund, the Blanche May Memorial Fund, the Margaret Mayer Fund, and the United States Public Health Service.

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3. Lewis, T.: Observations upon Flutter and Fibrillation: I. Regularity of Clinical Auricular Flutter, Heart 7: 127, 1918-1920.
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8. Prinzmetal, M., and others: The Auricular Arrhythmias, Springfield, Ill., Charles C Thomas, Publisher, 1952.

communication from Brown[10] states that circus movement was obtained in instances of experimental flutter initiated by the crush method but not in instances of aconitine-produced flutter. Indeed, a case is described in which one auricle showed a circus movement, while the flutter impulse spread through the opposite auricle in a linear course. Thus, it appears that the mechanism of auricular flutter may vary with conditions of the experiment, particularly with the method of production employed.

These interesting experimental studies must not be allowed to distract attention from the primary problem: What is the nature of spontaneous auricular flutter in man? A definitive answer can be found only through observation of the human auricle by direct methods, such as the cinematographic and surface lead electrocardiographic techniques employed in dogs. Recently, mechanical and electrical activity in the exposed auricles of several patients with auricular fibrillation has been recorded during mitral commissurotomy.[11] Clinical auricular flutter, in contrast to fibrillation, is relatively rare and seldom occurs under conditions that necessitate surgical intervention. The following case provided a rare opportunity to obtain direct evidence of the nature of spontaneous auricular flutter in a patient.

REPORT OF A CASE

A 49-year-old woman was first seen Jan. 11, 1952, with the complaint of severe frontal headache. Four days previously she had had a convulsive seizure, followed by brief loss of consciousness. Weakness of the left extremities and personality changes, with poor memory, were noted after the seizure. She had rheumatic fever during childhood and had had rheumatic heart disease for many years. Periodic examination by a private physician disclosed irregular heart action, but the ventricular rate was slow and there were no signs of cardiac insufficiency. The patient was not receiving digitalis.

Except for slight aphasia, the significant findings were limited to cardiac and neurological abnormalities. Physical examination revealed no demonstrable cardiac enlargement or thrill. A grade 2 rumbling, mid-diastolic murmur was heard at the apex. The pulmonic second sound was accentuated. Cardiac rhythm appeared irregular. The blood pressure was 120 mm. Hg systolic and 80 mm. Hg diastolic. The electrocardiogram showed auricular fibrillation. Roentgenographic and fluoroscopic examination of the chest revealed moderate cardiac enlargement, with dilatation of the left atrium and right ventricle. Neurological findings included weakness of the left arm and leg, hyperactive reflexes, and a positive Babinski sign in the left leg.

A diagnosis of rheumatic heart disease with mitral stenosis, auricular fibrillation, and residual effects of a recent cerebral embolism was made. The patient was hospitalized on Jan. 11. Five days later, conversion from auricular fibrillation to auricular flutter occurred. As the patient was considered an excellent candidate for mitral commissurotomy, this procedure was performed at the Cedars of Lebanon Hospital on Jan. 19, 1952. Limb lead electrocardiograms recorded shortly before, throughout, and after the operation showed typical flutter undulations. High speed color cinematographs of the exposed auricles were made during a brief interval between incision of the pericardium and fracture of the commissure. The mitral valve was described as of the "fish mouth" type. After commissurotomy, the valve admitted two fingers with little regurgitation. The patient was discharged Jan. 30, after an uneventful postoperative course.

Cinematographic Technique.—After limb lead connections had been made, control electrocardiograms were taken and the chest wall was opened. A specially adapted Bell and Howell motion picture camera mounted on a tripod was located 3 ft. to the left of the patient about 2 ft. above the level of the operating table. Two General Electric Photospot lights (RSP2) were placed on each side of the camera and provided adequate illumination of the photographic field, without adversely affecting the temperature of the heart. With the pericardium open, the camera was focused on the exposed surface of the left auricular appendix, and was operated at a speed of 200 frames per second. The pulmonary artery was pushed down, and both auricular appendixes were photographed simultaneously. Auricular flutter, with an auricular rate of 240 beats per minute, and a 4:1 auriculoventricular block was registered in the limb leads while the motion pictures were being made (fig. 1). The entire cinematographic procedure added less than five minutes to total operating time and was harmless to the patient.

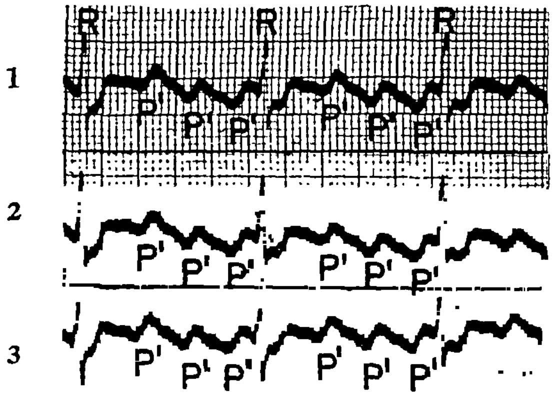

Fig. 1.—Limb leads 1, 2, and 3 recorded simultaneously with high speed cinematographs of the exposed auricles in a patient with auricular flutter during mitral commissurotomy. Note typical undulatory pattern of flutter, composed of inverted depolarization complexes (P' waves) and upright repolarization complexes (Ta waves).

Cinematographic Findings.—The high speed, color cinematographs recorded during the operation provided a clear reproduction of the fluttering auricles in man. When the films were projected at eight frames per second, the motion of the auricles appeared on the screen 24 times slower than it actually was. Such slow speeds show the minutest details of auricular activity with clarity. Successive waves of contraction and relaxation were seen to engulf the left appendix from base to apex. The right appendix began to contract simultaneously with the left appendix. Both appendixes reached maximum systole at the same instant (fig. 2*B*), then began immediately to relax, and finally achieved full diastole simultaneously (fig. 2*A*). In both appendixes, the duration of diastole was about twice as long as that of systole. If a counterclockwise circus movement had been present in the fluttering auricles, the right appendix would have contracted before the left appendix. Conversely, a clockwise circus movement would have involved the left appendix before the right. In the slow-motion pictures, this difference in time of contraction of the two appendixes would have been readily discernible. Simultaneous activation of both auricular appendixes thus is entirely incompatible with the circus movement theory.

COMMENT

The cinematographs described are strikingly similar to films of experimental animals recorded during instances of flutter produced by application of aconitine or

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[9] Rosenblueth, A., and Garcia Ramos, J.: Estudios sobre el flutter y la fibrilación: 2. La influencia de los obstáculos artificiales en el flutter auricular experimental, Arch. Inst. cardiol. Mexico 17: 1, 1947. Garcia Ramos, J., and Rosenblueth, A.: Estudios sobre el flutter y la fibrilación: 3. La actividad autosostenida en el musculo auricular aislado del mamifero, ibid. 17: 302, 1947; Los efectos de la acetilcolina y del ion potasio sobre el musculo auricular del mamifero, ibid. 17: 384, 1947.

[10] Brown, B. B., and Acheson, G. H.: Aconitine-Induced Auricular Arrhythmias and Their Relation to Circus-Movement Flutter, Circulation 6: 529, 1952.

[11] Prinzmetal, M.: Mechanism of Spontaneous Auricular Flutter and Fibrillation in Man, Circulation 7: 607, 1953.

electric stimuli at the caudal end of the auricles.[8] In the dog, as in the patient, both auricular appendixes were seen to contract simultaneously, establishing the fact that no circus movement occurred. Moreover, electrocardiograms taken throughout the operation were similar to those of experimental auricular flutter produced by stimulation of the caudal region; they show inverted depolarization waves followed by upright repolarization waves [8] in leads 1, 2, and AVF (fig. 1). This electrocardiographic pattern is found in the majority of patients with spontaneous auricular flutter. In extensive experimental study in humans and dogs, it has been established that the depolarization wave in leads 1, 2, and AVF is upright when the excitation wave starts at or near the sinoauricular node and is inverted when an ectopic focus exists in the caudal region of the auricles. Thus, the excitation wave of the common type of clinical auricular flutter must arise in the caudal region, from which it travels in a caudocephalic direction and activates both appendixes simultaneously.

Further evidence conflicting with the circus movement theory consists of the frequent presence of an isoelectric interval following the auricular complex in limb and precordial leads of clinical flutter. Of 139 such records analyzed,[8] 95% showed a distinct isoelectric baseline after the Ta wave. Continuous undulations or pure "sine wave" patterns generally appeared only when the auricular rate was exceptionally rapid or when the patient had received quinidine or other drugs. In several instances, an isoelectric interval was present before treatment but disappeared after quinidine was given. If the mechanism of flutter were a self-perpetuating circus movement, excitation presumably would be a continuous process, with no isoelectric pause between auricular contractions. The isoelectric interval must indicate that auricular diastole occurs between successive contractions, as observed in the cinematographs. This observation is incompatible with a reentry phenomenon, but it is readily explained by the theory that flutter originates from a rapidly discharging ectopic focus.

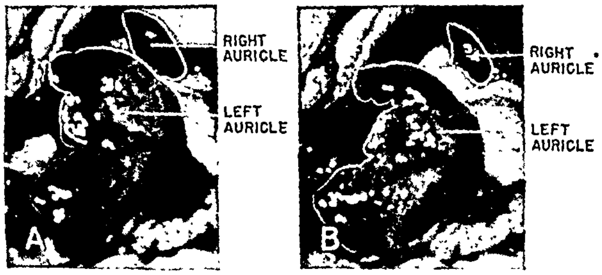

Fig. 2.—Stills from high speed cinematographs showing left and right auricular appendixes in a patient with spontaneous auricular flutter: *A*, both appendixes in maximum diastole at the same instant; *B*, both appendixes in maximum systole at the same instant.

The preceding observations are confirmed by means of esophageal lead electrocardiography. Several workers, including us, have independently reported the configuration of simultaneous esophageal leads from high, low, and midauricular levels in patients with spontaneous flutter.[12] These tracings lead inevitably to one conclusion: In the common type of flutter, the impulse travels from a caudal focus until it reaches the cephalic extremity of the auricles, where it terminates. In the rare type of flutter, the impulse arises in the cephalic region, travels in a cephalocaudal direction, and terminates at the caudal end. The departure of the flutter wave from the focus and its arrival at the opposite end of the auricles is clearly manifested in the esophageal electrocardiograms. In no instance, however, do the tracings yield evidence that the flutter wave leaves the distal extremity and returns to its site of origin, as supposed by proponents of the circus movement theory. If a circus movement was present in the patients studied, it must be assumed that basic electrocardiographic concepts are not applicable to auricular muscle. Such an assumption is contrary to overwhelming evidence advanced during the half century since the invention of the electrocardiograph.

SUMMARY

High speed, color cinematographs of the exposed auricles in a patient with auricular flutter were recorded simultaneously with limb lead electrocardiograms during mitral commissurotomy. The cinematographs clearly showed that the left and right auricular appendixes contracted simultaneously. This observation is entirely incompatible with the circus movement theory. Limb leads 1, 2, and AVF, recorded during the operation, showed inverted depolarization waves followed by upright repolarization waves. Such abnormal complexes occur when the ectopic focus is in the caudal region of the auricles distant from the sinoauricular node. The common type of clinical auricular flutter arises from an ectopic focus in the caudal region, while the rare type arises from a cephalic focus. In all instances, the flutter wave travels away from the ectopic focus until it terminates at the opposite extremity. No circus movement occurs in the spontaneously fluttering auricles of man.

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[12] Prinzmetal and others.[8] Brown, W. H.: Study of Esophageal Lead in Clinical Electrocardiography: Electrocardiographic Study of Auricular Disorders in Human Subject by Means of Esophageal Lead, Am. Heart J. **12**: 307, 1936. Enselberg, C. D.: Esophageal Electrocardiogram in Study of Atrial Activity and Cardiac Arrhythmias, ibid. **41**: 382, 1951. Kossman, C. E., and Berger, A. R.: Auricular Flutter of 11 Years' Duration with Observations on Esophageal Electrocardiograms, Ann. Int. Med. **15**: 128, 1941.

Daniel Drake.—The year 1952 marks the centennial of the death of Daniel Drake. A century ago he was the foremost physician west of the Allegheny Mountains and had an international reputation. . . . Only some of the outstanding firsts can be mentioned at this time. He was the first medical student in Cincinnati, the first to receive a medical diploma and the first to submit to vaccination here. He wrote the first book with a medical section published west of the Alleghenies. This book contained the first comprehensive account of a western town (Cincinnati), the first listing of its indigenous plant life and the first mention of a hitherto unknown local malady, milk sickness. Daniel Drake was a member of the first active faculty (1817) of the first medical institution (Transylvania University) west of the Allegheny Mountains. . . . The hospital which he founded—the Commercial Hospital and Lunatic Asylum of Ohio—for teaching and staffed exclusively by the professors of his medical college was the first in the United States established primarily for teaching purposes. The medical college set up by Drake, now the University of Cincinnati School of Medicine, was the second in the West. It is wholly in keeping with the versatility of Drake's genius that he was also the first to plan for the publication of a medical journal in the West.—E. F. Horine, Daniel Drake and the Origin of Medical Journalism West of the Allegheny Mountains, *Bulletin of the History of Medicine*, May-June, 1953.

CHROMOBLASTOMYCOSIS

THIRTEENTH REPORTED CASE IN THE UNITED STATES

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In 1943 Moore, Cooper, and Weiss[1] reported two cases of chromoblastomycosis and noted that six cases of the disease contracted in the United States had been reported previously. The 9th case was reported by Binford, Hess, and Emmons[2] and the 10th by Mundt and Moore.[3] Lewis and his associates[4] reported on a 67-year-old man with chromoblastomycosis of seven years' duration on the right hand. Chronic infectious granuloma developed after the hand was injured by wood splinters, and microscopic examination revealed chromoblastomycosis. Conway and Berkeley[5] reported the case of a 44-year-old Negro man who sustained an abrasion on the side of the foot that developed into a slightly elevated tumor with purplish-black nodules. The first case report from Canada was by Berger, Beaudry, and Gaumond.[6] The disease has been reported once each in Massachusetts, Pennsylvania, North Carolina, Georgia, Florida, Texas, and Louisiana, twice in New York, and three times in Missouri. This is the 13th reported case, in which the infection was contracted in either Missouri or Illinois.

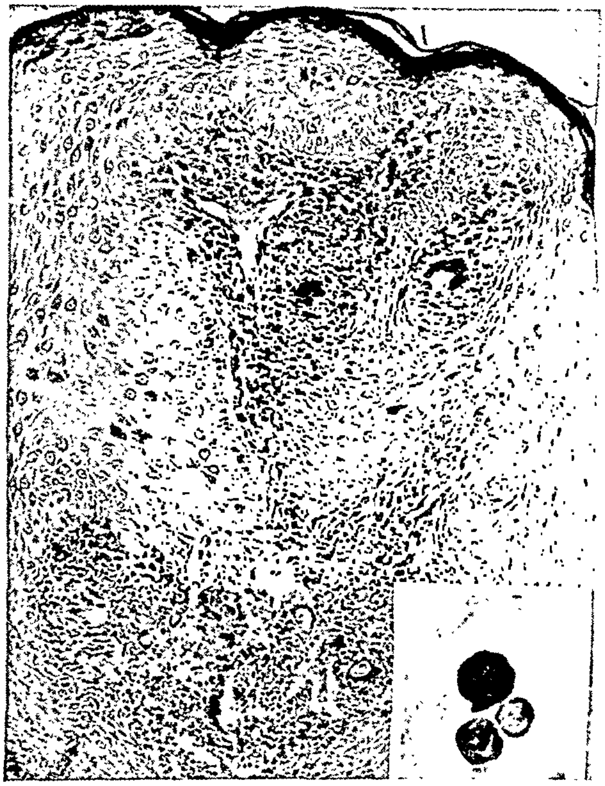
REPORT OF A CASE

A white man, aged 67, had three elevated, dry, verrucous plaques, each about 3 cm. in diameter, on the dorsal aspect of the left wrist. In 1945, while working in Missouri, he had burned his left wrist, at the site of the lesions, with coals from a creosote-dipped railroad tie. Shortly afterward, the patient entered a mental hospital in Illinois; thus the time when the cutaneous lesions appeared was unknown, but they had been evident for two years.

Microscopic examination of the lesion revealed the epidermis to be acanthotic, with a few intraepidermal abscesses containing polymorphonuclear leukocytes and a few eosinophilic leukocytes. In the papillae and dermis there was an abundant infiltrate consisting of many giant cells, histiocytes, plasma cells, lymphocytes, eosinophilic leukocytes, and fibroblasts. Within the giant cells and occasionally, free in the intraepidermal abscesses, were dark brown cells, at times isolated but for the most part in cohesive groups. The diagnosis was chromoblastomycosis. Electrocoagulation performed one year ago apparently destroyed the lesions.

COMMENT

The case report illustrates two possible etiological factors, a burn and exposure to wood. The rarity of the disease in the United States is illustrated by Carrion's[7] report that, of 159 cases reported up to 1947, only 9 were from the United States. The disorder is commonest in Brazil, Cuba, and Puerto Rico. Most authors have stated, however, that the condition is not as rare as it appears to be. After Saxton, Hatcher, and Derrick[8] reported the first two cases in Australia, Tod-Stevens[9] found reports of 33 men and 3 women with chromoblastomycosis in a clinic in North Queensland. Since in almost every case diagnosis is made microscopically, it is obvious that biopsy should be performed on all chronic granulomas.



Granuloma showing many giant cells (hematoxylin and eosin stain, × 113). Inset shows group of three cells free in the infiltrate (hematoxylin and eosin stain, × 731).

1630 5th Ave.

Dr. S. William Becker, Chicago, made the microscopic examination and report.

1. Moore, M.; Cooper, Z. K., and Weiss, R. S.: Chromomycosis (Chromoblastomycosis): Report of Two Cases, J. A. M. A. **122**: 1237-1243 (Aug. 28) 1943.

2. Binford, C. H.; Hess, G., and Emmons, C. W.: Chromoblastomycosis: Report of Case from Continental United States and Discussion of Classification of Causative Fungus, Arch. Dermat. & Syph. **49**: 398-402 (June) 1944.

3. Mundt, L. K., and Moore, M.: Chromomycosis: Report of a Case from Louisiana with Discussion of its Clinical and Mycologic Features, New Orleans M. & S. J. **100**: 558-565 (June) 1948.

4. Lewis, G. M., and others: Mycetoma-like Chromoblastomycosis Affecting the Hand: Further Findings and Comparative Mycologic Studies, J. Invest. Dermat. **10**: 155-168 (March) 1948.

5. Conway, H., and Berkeley, W.: Chromoblastomycosis (Mycetoma Form) Treated by Surgical Excision, A. M. A. Arch. Dermat. & Syph. **66**: 695-702 (Dec.) 1952.

6. Berger, L.; Beaudry, M., and Gaumond, E.: Chromoblastomycosis Due to a New Species of Fungus (First Canadian Case), Canad. M. A. J. **53**: 138-142 (Aug.) 1945.

7. Carrion, A. L.: Chromoblastomycosis, Ann. New York Acad. Sc. **50**: 1255-1282 (Sept. 6) 1950.

8. Saxton, W. J.; Hatcher, F., and Derrick, E. H.: Chromoblastomycosis, with Reports of Two Cases Occurring in Queensland, M. J. Australia **1**: 695-697 (May 18) 1946.

9. Tod-Stevens, F. R.: Chromoblastomycosis, correspondence, M. J. Australia **1**: 93 (Jan. 18) 1947.

Patterns of Gastric and Duodenal Pain.—As a rule, the pain of peptic ulcer is situated in the midline, regardless of whether the ulcer is in the stomach or in the duodenum. Its characteristics are so familiar to physicians that the pain is commonly spoken of as "typical ulcer pain." It is usually situated somewhere between the retroxiphoid area and the umbilicus. If it is of duodenal origin, it may be slightly to the right of the midline; if it is of gastric origin, it may be slightly to the left of the midline. Complications can usually be detected when this pain shifts to other places. Penetration and perforation are commonly manifested by this shift before they can be detected by roentgenographic examination. In general, a shift of pain cephalad is indicative of a higher lesion than is a caudad shift of pain.—L. A. Smith, M.D., Pain Patterns in Diseases of the Upper Part of the Abdomen, *Proceedings of the Staff Meetings of the Mayo Clinic,* July 29, 1953.

ALLERGIC CONTACT DERMATITIS CAUSED BY MELMAC ORTHOPEDIC COMPOSITION

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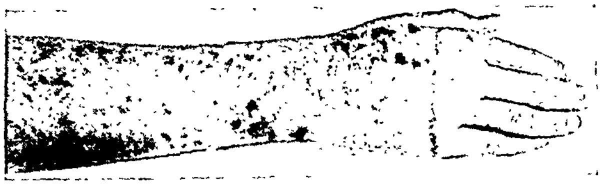
and
Lee T. Ford, M.D., St. Louis

We recently encountered two patients who had allergic skin reactions to Melmac Orthopedic Composition. This preparation consists of two powders, a melamine resin (Melmac 405) and ammonium chloride, which acts as a catalyst. For preparation of the plaster bandages, 300 gm. of Melmac 405 is dissolved in 1,000 cc. of water, and just before the plaster bandages are immersed in the solution 30 gm. of ammonium chloride is added. When the plaster is treated with this solution it becomes waterproof and urineproof and appears to be more than twice as strong as plaster of paris; therefore, only about one-half the usual amount of plaster bandage is required, and the cast produced is lighter and smaller than the ordinary plaster bandage.

REPORT OF CASES

CASE 1.—A 13-year-old white boy was first seen by one of us (L. T. F.) on Sept. 22, 1952, because of an injury to the right wrist that had occurred earlier that day. A roentgenogram revealed a linear fracture of the carpal navicular bone. A light Melmac cast was applied, and, when the patient was examined two days later, the cast was found to be satisfactory and the circulation good. On Oct. 2, 1952, the patient began to complain of discomfort under the cast. Examination at that time revealed no fault in the cast, and a roentgenogram showed no change. The patient was seen again on Oct. 6, 1952, when he complained of severe pain under the cast and said that two days previously, weeping had begun. At examination serum was found to be dripping from both ends of the cast. Removal of the cast revealed a severe dermatitis (see the figure). The patient was admitted to the St. Louis Children's Hospital for treatment. At the time of admission, examination revealed a severe vesiculopustular eruption over the entire area that had been covered by the cast. Stockinet had been used under the plaster, and it was probably because of this that the reaction was delayed until the 12th day. It was learned at that time that the boy was allergic to wool also. On the next day, Oct. 7, 1952, a mild, pruritic, erythematous, vesiculopapular eruption appeared on the chest, abdomen, and legs. With treatment with an antihistaminic drug and local applications, the dermatitis subsided considerably, and the patient was discharged from the hospital on Oct. 10, 1952. He was followed as an outpatient, and by Nov. 14 the rash had cleared completely, except for some erythematous patches on the arm at the sites of the previous dermatitis. On Jan. 10, 1953, a patch test was applied with a small piece of the plaster; when removed 48 hours later, a positive reaction exactly like the original dermatitis was present.



Arm of patient in case 1, showing severe allergic dermatitis due to Melmac.

CASE 2.—A 6-year-old white boy has fragilitas ossium. He has had 28 fractures since the age of two years, all except one of which have involved the lower extremities. In June, 1952, he was admitted to the St. Louis Children's Hospital, and Rust intramedullary pins were placed in each femur and each tibia in an attempt to lessen the incidence of fractures. After this procedure, the boy was placed in a double spica cast, ordinary orthopedic plaster bandages being used, and he remained in the cast for two months. Some relaxation of the ligaments in the knees had occurred while he was in the cast, and this along with the atrophy of the bone structure that was present made ambulation difficult. To encourage ambulation and to protect the legs, long leg casts of Melmac plaster bandages were applied on Oct. 24, 1952. No stockinet was used beneath the plaster. On Oct. 31 the child complained of itching beneath the casts, which was severe enough to prevent sleep. A sedative was given but did not control the symptoms. Therefore, on Nov. 1 both casts were removed. Examination revealed a diffuse, moderate erythema of the skin, and at pressure points there was some evidence of early urticarial lesions. The casts were left off, and local applications were given. After one week, the dermatitis disappeared.

On March 16, 1953, patches of Melmac 405, a 3% solution of ammonium chloride, and a piece of the Melmac-treated plaster were applied. On March 18 the patches were removed, and a positive reaction similar to the original dermatitis was found at the sites tested with Melmac 405 and Melmac plaster. These reactions were less severe than those seen in the other patient, as would be expected, since the first patient had had a severer reaction originally.

SUMMARY AND CONCLUSIONS

Two cases of the occurrence of dermatitis under Melmac plaster casts are reported. Results of patch tests with Melmac were positive in each case. Both patients recovered without serious incident.

It is our opinion that the occurrence of two cases of dermatitis due to Melmac plaster is not a contraindication to its use. The advantages offered outweigh the disadvantage of a possible reaction. We suggest that patients be advised of the early signs of such reaction, and that, should these be detected, the cast be opened for examination of the skin.

ADDENDUM

Since this article was submitted for publication, we have observed severe reactions in two additional cases.

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SURGICAL TREATMENT OF PERFORATED DUODENAL ULCER IN THE NEWBORN

REPORT OF A CASE

Manuel E. Lichtenstein, M.D.,
Lars E. Lundgoot, M.D.,
Anthony J. Nicosia, M.D.,
and
Lawrence G. Khedroo, M.D., Chicago

Perforation of a gastric or duodenal ulcer and rupture of the stomach or duodenum due to trauma, a defect in the wall of the viscus, or any other cause occur infrequently in the newborn and are clinically indistinguishable from one another. They are usually fatal because of peritonitis, shock, and difficulties encountered in maintaining adequate nutrition and hydration. A suspicion that there may be leakage from the stomach or duodenum

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into the peritoneal cavity is, therefore, of importance in establishing an early diagnosis and promptly instituting appropriate treatment. The reward in the few instances in which this was done has been the survival of the patient.

It is not always possible to recognize perforation of the gastrointestinal tract in the newborn by physical examination. Roentgenographic demonstration of a pneumoperitoneum was, however, the most important diagnostic aid in the treatment of patients who survived early surgery for closure of a leaking viscus. It was the basis for recognition of the condition in our patient and made possible early surgery with survival of the patient (fig. 1).

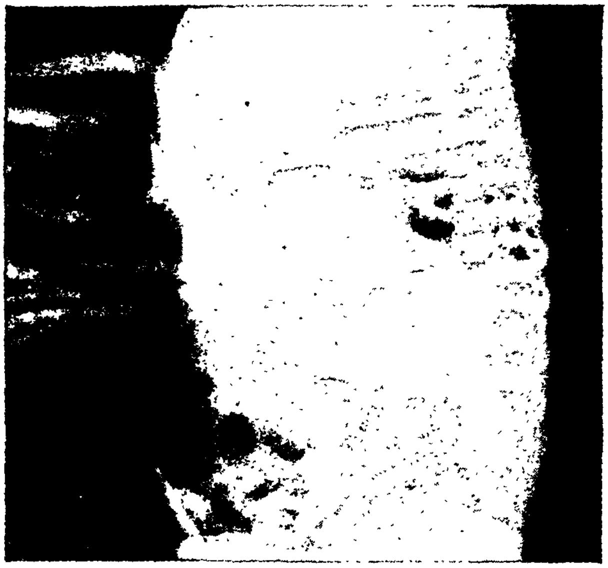

Fig. 1.—Roentgenogram of 3-day-old infant showing pneumoperitoneum.

REPORT OF A CASE

A 24-year-old woman, para 0 and gravida 1, was admitted to an obstetric service on March 15, 1951. At 1:30 p. m. on the same day, she delivered a normal appearing female infant weighing 6 lb. 14.5 oz. (3,120 gm.). The day after birth, the infant passed a small meconium stool, would not take the formula, and vomited several times. Her temperature rose 0.8 of a degree, and she had lost 3 oz. (85.05 gm.). The next day, the temperature reached 98 F, and vomiting continued. On March 18, 1951, the infant was transferred to the pediatric department. Her temperature was 99 F; she was vomiting bile stained material; she was pallid; and the abdomen was distended. Bowel sounds were absent. The baby was given a transfusion of 5 cc. of whole blood and 300 cc. of fluids subcutaneously. A roentgenogram of the abdomen showed a very large amount of free air in the abdomen that shifted when the patient's position was changed. The hemoglobin level was 108.9% (16.6 gm., Haden-Hausser), red blood cells, 4,900,000 white blood cells, 8,450 per cubic millimeter, with 50 segmented cells, 50 lymphocytes, and 4 to 5 nucleated red blood cells per 100 white blood cells.

On March 19, 1951, decompression of the stomach was achieved by suction through a Levin tube. Laparotomy was done through a right rectus incision (paramedian). Free air and clear fluid were noted in the greater peritoneal cavity. In the right subhepatic space, there were bile stained fluid and a thick exudate that flowed from the foramen of Winslow. The lesser peritoneal cavity was explored through an opening in the gastrocolic ligament. On the posterior aspect of the first portion of the duodenum within 5 mm. of the duodenopancreatic angle, there was a 2 mm. opening through which bile stained duodenal contents flowed. Three 0000 silk sutures were used to close the defect (fig. 2). During the postoperative period, the patient was given 50 cc. of whole blood, 250 cc. of 5% dextrose in saline with hyaluronidase (Alidase), and 200,000 units of penicillin. Gastric decompression was continued.

On the day after surgery, the temperature was 101 F; distention was decreased; and no bowel sounds were heard. Dyspnea and slight cyanosis were overcome with oxygen (3 liters per minute) administered through a mask. There was a small meconium stool, and 200 cc. of urine were excreted in 25 hours. During the next two days, the temperature rose to a maximum of 104.8 F; intravenous feedings consisted of 5% dextrose in Ringer's solution; and whole blood transfusions were given. On March 22, 1952, when the temperature was 104.8 F, oxygen was given by mask. Penicillin was administered, and gastric suction was discontinued. On March 23, 1951, the temperature was 103.6 F. Ringer's solution with dextrose was given orally in amounts of 2 oz. every three hours. The decompression tube was removed because of dyspnea, regurgitation, and transient cyanosis. By March 24, the temperature was 100.8 F; oral feedings were continued and retained; and there were frequent golden-yellow stools. The incision was draining serum. After March 27, the temperature never went above 99 F or below 98 F during the rest of the infant's hospital stay. Water and formula were taken well every three hours. On March 28, the weight was 6 lb. 9 oz. (2,976.7 gm.). The movements of the gastrointestinal tract were satisfactory. The skin and subcutaneous tissues did not heal, but the fascia remained closed. On April 5, 1951, the condition of the wound was not changed. The baby weighed 6 lb. 11 oz. (3,033.4 gm.). The infant was discharged in good condition and taking formula satisfactorily on April 13. The wound healed by secondary union. The fascial wound did not open. In March, 1953, the child was well developed and free from gastrointestinal disturbance. No further evidence of ulcer had appeared.

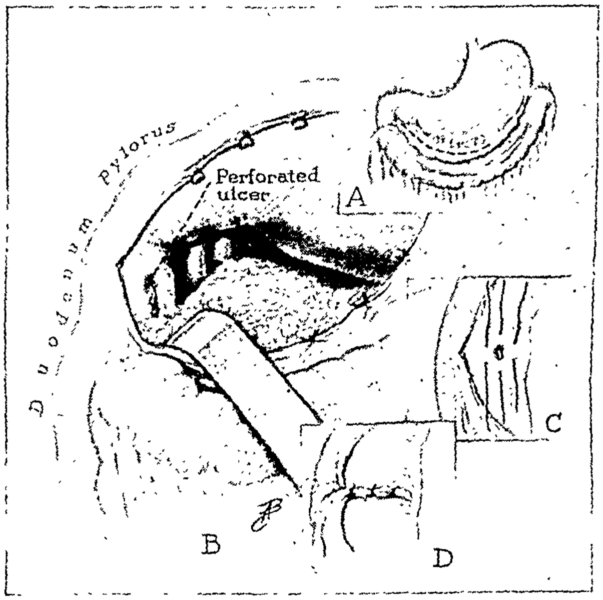

Fig. 2.—Steps in repair of perforated duodenal ulcer in infant include *A*, gastrocolic ligament cut along broken line; *B*, leaking duodenum exposed; *C*, sutures inserted; and *D*, sutures tied over portion of gastrocolic omentum.

COMMENT

The frequency of perforated ulcer in the newborn has not been established. Guthrie,[1] in 1942, reviewed the literature on peptic ulcer in infancy and childhood and found 9 instances in 6,059 postmortem examinations at the Glasgow Royal Hospital for Sick Children. Six of these were in infants under three months of age. Mavrelis and Polsen,[2] in 1948, found 59 reported instances of perforation of the stomach and duodenum before death in infants less than a year old. They noted that of 17,503 postmortem examinations performed at Cook County Hospital between 1938 and 1948, 2,319 were in infants under one year of age. Fourteen of these had perforated ulcers of which nine were in the duodenum and five in the stomach. In general, the defect was larger in the stomach than in the duodenum; those in the stomach measured 1 to 3 cm. in the greatest dimension and those in the duodenum 0.3 to 1 cm. The symptoms of perforation varied considerably. In 10, the time of perforation was evident; in 3, few or no premonitory symptoms were noted, and the infants seemed normal until found dead. In one, free perforation did not occur. Shock and sudden abdominal distention were noted most commonly. In nine, rapid onset of abdominal distention occurred but was not relieved by enema. Continuous gastric aspiration in two had little effect on the distention. Death occurred very shortly after perforation in one case, and at autopsy a gross fibrinous exudate had not yet formed. A fibrinopurulent generalized peritonitis was present in two other cases of apparent sudden death. Of those in which the time of perforation was apparent, death occurred in from 3 to 36 hours; the average, at about 12 hours.

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[1] Guthrie, K. J.: Peptic Ulcer in Infancy and Childhood with Review of the Literature, Arch. Dis. Childhood 17: 82 (June) 1942.

In a review of the autopsy records from the Children's Hospital of Detroit from 1940 to 1949, Lemak [3] found that in 1,922 autopsies there were 18 infants under two months of age with ulceration of the gastroduodenal tract. The majority of these were under one month of age. Of these 18 infants, 4 had been examined roentgenologically. Brain damage was found in nine on postmortem examination. Six exhibited evidence of brain damage clinically by cyanosis, irritability, or convulsions. Twelve were premature infants, with a birth weight under 5½ lb. (2,495 gm.); two had clinical evidence of an active infection on admission to the hospital; eight were vomiting on admission; and hematemesis developed in six of those vomiting on admission. Ulcerations were in the stomach in 17 cases and in the duodenum in only one. The incidence of gastric and duodenal ulcers in this series is at marked variance with the incidence noted in the Cook County Hospital series.

Quinn,[4] in 1940, reported the occurrence of fatal gastroduodenal ulceration in a 6-day-old and two 5-day-old babies. The first received no roentgen examination or surgery and died 24 hours after onset of symptoms. A roentgen examination of the abdomen of the second infant showed no diagnostic signs of perforation; however, at surgery, perforation of the first part of the duodenum was found. At the age of two days, the third newborn was examined roentgenographically and a pneumoperitoneum was demonstrated. The diagnosis of a ruptured viscus was made. At operation, a perforated ulcer of the stomach was found and closed. The patient died at the age of five days because of complicating pneumonia. This report emphasizes the diagnostic and therapeutic problems worthy of consideration.

Pendergrass and Booth,[5] in 1946, reported on a 3-day-old infant with two perforations of the stomach. One of the perforations was closed surgically, but the other, on the posterior wall of the stomach, was not found until autopsy; the infant died on the fifth day of life as a result of fibropurulent peritonitis. The appearance at autopsy suggested that the second perforation was present at the time of operation and was overlooked because of its position and because, when one perforation was found and closed, an inadequate search was made for another perforation. Herbut [6] was the first to report an instance in which a congenital defect of the musculature of the stomach wall was considered responsible for the perforation. Burnett and Halpert [7] reported perforation of the stomach in a 2-day-old infant with atresia of the pyloric portion of the stomach. The principal predisposing factor in this case was believed to be a congenital defect of the muscle coats of the stomach. This case is of particular interest in that there was no distal obstruction in any of the previously recorded instances of perforation of the stomach, and there was no perforation in the two previously reported cases of obstruction.

The first report of survival after an operation for perforated ulcer in an infant was by Selinger.[8] That perforation was treated by primary closure. Bird, Limper, and Mayer,[9] in 1941, reported on a 34-hour-old baby operated on immediately after roentgen diagnosis of a ruptured viscus, based on the presence of air and fluid in the abdomen. A duodenal ulcer was closed, and the patient survived without any residual gastrointestinal deformity.

Recently, Fell, Johnson, and Kerrigan,[10] in a study of spontaneous pneumoperitoneum in the newborn, noted perforations of the large bowel in several, but in one they found and closed a duodenal ulcer with survival of the patient.

As to etiology, Mossberger [11] presented an instance of perforated duodenal ulcer in a 5-day-old infant with a hamartomatous growth of the tuberal region of the hypothalamus. In the newborn, the simultaneous existence of two minute, well-defined morbid conditions in anatomic regions far removed but long suspected of being intimately related emphasizes the need for careful necropsy examination of both the head and abdomen when a lesion is found in the upper alimentary tract or in the hypothalamus.

The matter of gastric acidity during early infancy was investigated by Miller.[12] The maximum acidity is usually reached within 24 hours after birth. Thereafter, it falls during the first 10 days, and then gradually rises until, at the end of the first month, it levels off. It has been observed that nearly all unfed infants have free acid in their gastric secretion at the time of birth and also that the heavier the infant is at birth, the more likely it is to have a more acid gastric secretion.

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[2] Mavrelis, W. P., and Polsen, D. A.: Unpublished data.

[3] Lemak, L. L.: Roentgenological Manifestations of Gastroduodenal Ulceration in the Newborn, Am. J. Roentgenol. 66: 191 (Aug.) 1951.

[4] Quinn, A. G.: Report of Two Ruptured Gastric Ulcers and One Ruptured Duodenal Ulcer in Three Newborn Infants, South. M. J. 33: 1171 (Nov.) 1940.

[5] Pendergrass, E. P., and Booth, R. E.: Report of a Case of Ruptured Stomach in Infant 3 Days Old, Am. J. Roentgenol. 56: 590 (Nov.) 1946.

[6] Herbut, P. A.: Congenital Defect in the Musculature of Stomach with Rupture in Newborn Infant, Arch. Path. 36: 91 (July) 1943. Potter, E. L.: Pathology of the Fetus and Newborn, Chicago, Year Book Publishers, 1952.

[7] Burnett, H. A., and Halpert, B.: Perforation of Stomach of Newborn Infant with Pyloric Atresia, Arch. Path. 44: 318 (Sept.) 1947.

[8] Selinger, J.: Peptic Ulcer in Infants Under One Year of Age, Ann. Surg. 96: 204 (Aug.) 1932.

[9] Bird, C. E.; Limper, M. A., and Mayer, J. M.: Surgery in Peptic Ulceration of Stomach and Duodenum in Infants and Children, Ann. Surg. 114: 526 (Oct.) 1941.

[10] Fell, E.; Johnson, W., and Kerrigan, W.: Unpublished data.

[11] Mossberger, J. I.: Perforated Duodenal Ulcer and Neoplasm of the Tuber Cinereum in the Newborn, J. Neuropath. & Exper. Neurol. 6: 391 (Oct.) 1947.

[12] Miller, R. A.: Observations on Gastric Acidity During the First Month of Life, Arch. Dis. Childhood 16: 22 (March) 1941.

SUMMARY AND CONCLUSIONS

Recovery of a newborn from surgery for closure of a perforated duodenal ulcer is reported. Shock and distention not relieved by enema or gastric suction suggest the diagnosis of perforated viscus.

The value of roentgenographic examination in detecting a pneumoperitoneum is emphasized; it is the most important diagnostic aid. Experience has shown that failure to use this method of examination has been responsible for misdiagnosis or failure in recognizing the nature of the condition. At surgery, examination of both surfaces of the stomach and duodenum should be done lest a posterior perforation be overlooked or a second opening neglected. A distinction should be made between perforation of an ulcer and rupture of a viscus due to trauma, defect in the wall of the viscus, or any other cause.

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BLASTOMYCOSIS IN TUBERCULOUS PATIENT

A. W. Stillians, M.D.
and
H. E. Klemptner, M.D., Chicago

The complication of pulmonary and laryngeal tuberculosis by blastomycosis is rare and, so far as we can determine, has not been reported previously. It presents several problems of interest.

REPORT OF A CASE

A 31-year-old tool grinder was admitted to the Municipal Tuberculosis Sanitarium of Chicago on Aug. 1, 1946. His illness had begun in 1935. On admission, he had far advanced pulmonary tuberculosis, with infiltrations in the upper two-thirds of both lungs, cavities bilaterally, and moderately severe tuberculosis of the larynx. Sputum contained tubercle bacilli. In the six months after admission, he made some improvement; his weight increased from 120.5 to 135.5 lb. (54.63 to 61.43 kg.), but the sputum continued to show bacilli.

Late in February, 1947, an eruption developed on the skin of the left side of the patient's nose suggestive of infection. Hot wet packs applied frequently for two weeks had no beneficial effect, and the eruption spread over the distal third of the nose to form a large granulomatous mass. Penicillin given in doses of 250,000 units for 12 days was also ineffectual. A second lesion, which looked like a small abscess but which was not acutely inflamed, appeared on the scalp above the left ear. The diagnosis of blastomycosis was made and confirmed by direct examination of the pus and by culture and histological examination of skin sections.

Iodine medication was suggested, but was thought to be too dangerous by some in view of the pulmonary infection. Treatment was begun with copper sulfate as suggested by Bevan[1] in 1905. In spite of this, other blastomycotic abscesses had appeared on the scalp and right knee, wrist, and arm in two weeks. A trial course of therapy with sulfadiazine was also ineffectual. Sulfapyridine caused malaise and vomiting. The case was discussed at a staff meting at which it was decided to try therapy with iodine cautiously. After the patient was given potassium iodide orally, up to 15 grains (0.97 gm.) three times a day, and after Lugol's (strong iodine) solution was applied locally, the lesions gradually receded and left a scar on the nose. A small focus remained at the nares for a long time. During the next six months the patient gradually lost 15.5 lb. (7.03 kg.), a drop from 135.5 to 120 lb. (61.43 to 54.4 kg.).

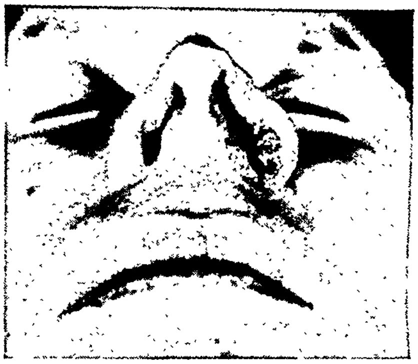

Fig. 1.—Appearance of blastomycotic lesion before treatment with ethyl vanillate.

In March, 1948, eight months after iodine treatment was begun, streptomycin, 0.5 gm. administered intramuscularly each day, was given for 60 days in conjunction with oral administration and local application of iodine. In six weeks of this treatment, the patient gained 3 lb. (1.3 kg.); after five months, he weighed 128.75 lb. (58.44 kg.); and, by March, 1949, he weighed 142 lb. (64.4 kg.), his normal weight.

Only six months later did we read of the experimental work done by Woody and Avery[2] on tuberculous guinea pigs. They showed that the combination of iodine and streptomycin gave far better results in the treatment of systemic tuberculosis of guinea pigs than did streptomycin alone.

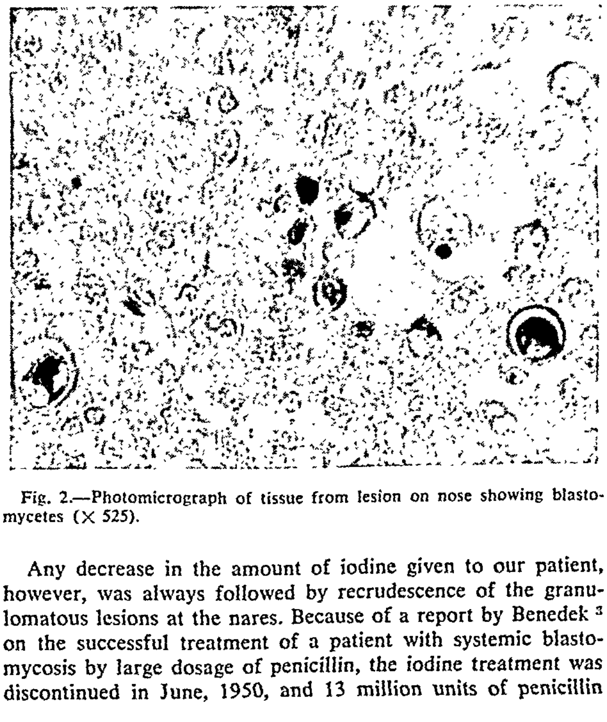

Fig. 2.—Photomicrograph of tissue from lesion on nose showing blastomycetes (× 525).

Any decrease in the amount of iodine given to our patient, however, was always followed by recrudescence of the granulomatous lesions at the nares. Because of a report by Benedek[3] on the successful treatment of a patient with systemic blastomycosis by large dosage of penicillin, the iodine treatment was discontinued in June, 1950, and 13 million units of penicillin

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From the Municipal Tuberculosis Sanitarium of Chicago.

Because of space limitations, some of the bibliographic references have been omitted from THE JOURNAL and will appear in the authors' reprints.

[1] Bevan, A. D.: Treatment of Actinomycosis and Blastomycosis with Copper Salts, J. A. M. A. 45:1492 (Nov. 11) 1905.

[2] Woody, E., Jr., and Avery, R. C.: The Combined Effect of Potassium Iodide and Streptomycin on Established Tuberculosis in Guinea Pigs, Science 108:501 (Nov. 5) 1948.

[3] Benedek, T.: Blastomycosis (Gilchrist): The First Case on Record Successfully Treated with Penicillin, Urol. & Cutan. Rev. 53:216 (April) 1949.

was given intravenously in six weeks. This had no effect on the blastomycosis; the lesions at the nares slowly increased in size. Soon after this, a second course of therapy with streptomycin was begun; 0.5 gm. was given intramuscularly each day for 60 days. At the same time, iodine treatment, as described before, was resumed. Rhinorrhea became troublesome but was controlled by daily doses of tripelennamine (Pyribenzamine). The blastomycotic granulations again decreased in size. The patient's weight remained at 142 lb. His urine on Aug. 3, 1951, contained 400 mg. of albumin per 100 cc., with a few cylindroids.

Since we had read about the inhibitory effect of ethyl vanillate on fungi in vitro,[4] we obtained a supply of this drug from the Institute of Paper Chemistry at Appleton, Wis. (Ethyl vanillate is a by-product of the manufacture of paper.) At this time the lesions were as shown in figures 1 and 2. At first, a dose of 4 gm. per day was given, and this was cautiously increased until, on Oct. 18, the blood level of 7 mg. per 100 cc. was reached. Then the dose was increased to 30 gm. per day (60 half gram capsules), and the blood level was brought to 20 mg. per 100 cc. on Oct. 25 and 30. The lesions did not recede. Because such large amounts of the drug interfered with the patient's appetite, the administration of ethyl vanillate was ended.

On Nov. 9, 1951, the patient's urine contained one gram of albumin per 100 cc., casts and cylindroids, and a few red blood cells. On Nov. 20, the blood contained 42 mg. of nonprotein nitrogen; 0.57 gm. of fibrinogen; 4.06 gm. of albumin; 2.6 gm. of globulin (ratio 1:56); and 7.23 gm. of total proteins per 100 cc. Total cholesterol was 170 mg. and cholesterol esters 75 mg. per 100 cc., thymol turbidity 3 units, and cephalin flocculation 2+. On Nov. 28, 1951, results of a Congo Red test for amyloid was positive; 100% of the dye was removed from the serum in one hour. There was no dye in the urine.

The report of Schoenbach, Miller, Ginsberg, and Long[5] on the treatment of systemic blastomycosis with Stilbamidine (4,4'-stilbenedicarboxamidine) encouraged us to try that drug, in spite of its known danger. Merck and Company furnished the drug, and its use was begun on Nov. 27 with an intravenous injection of 0.05 gm. in 200 cc. of 5% glucose in water. The second dose, 0.1 gm. in the same amount of glucose solution, was given on Dec. 1, 1951. Eight subsequent doses consisted of 0.15 gm. diluted in the same way. The last injection of the series was given on Dec. 12, and, on this day, it was noted that the lesion at the nares was only one-third as large as it had been. By Dec. 27, no untoward symptoms had appeared. On Jan. 17, 1952, a second course of treatment with Stilbamidine was begun; 0.15 gm. in 200 cc. of 5% glucose solution was given daily except for two Sundays. The 10th and last dose was given on Jan. 29. On Jan. 23, there was very little remaining evidence of blastomycosis, and, on Feb. 20, erythema and slight elevation of the skin were all that could be seen. On March 5, 1952, these had disappeared and, by February, 1953, there had been no sign of recurrence (fig. 3 and 4).

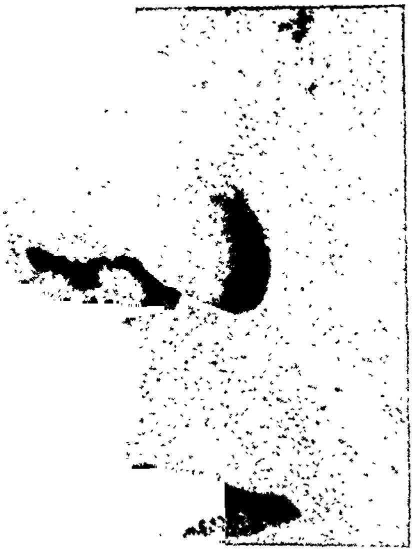

Fig. 3.—Scar of original blastomycotic lesions on nose and cheek.

On May 7, 1952, the patient reported numbness of his upper lip. This numbness was spreading laterally to the ears and upward to the frontal hair line. Slight itching was noted after the skin was stroked. Sharpness and dulness could still be distinguished. On May 9, the Congo Red test for amyloid was repeated and gave the same fully positive result as before. On Nov. 19, 1952, the paresthesia had lessened. The nares were still normal except for scars.

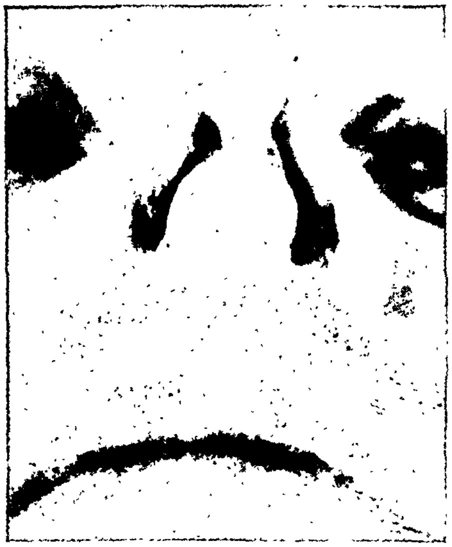

Fig. 4.—Appearance of nares after healing.

SUMMARY AND CONCLUSIONS

We consider this case of interest because of the coincident infections (tuberculosis and blastomycosis), the administration of iodides without injury to a patient with pulmonary tuberculosis, the excellent synergistic action of iodine and streptomycin, and the effective action of Stilbamidine on blastomycosis, with no untoward result except mild, temporary paresthesia in spite of preexisting albuminuria and amyloidosis.

We acknowledge that we cannot prove a cure, but absence of the disease for 13 months without treatment and without signs of recurrence makes it highly probable.

We believe that every paper dealing with Stilbamidine should emphasize that only freshly prepared solutions should be used and that a careful watch should be kept for signs of kidney or liver disturbance.[6]

104 S. Michigan Blvd. (3) (Dr. Stillians).

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4. Cohen, R.: Four New Fungicides for Coccidioides Immitis; Sodium Caprylate, Ethyl Vanillate, Fradicin, Thiolutin, Arch. Pediat. **68**: 259 (June) 1951.

5. Schoenbach, E. B.; Miller, J. M.; Ginsberg, M., and Long, P. H.: Systemic Blastomycosis Treated with Stilbamidine: A Preliminary Report, J. A. M. A. **146**: 1317 (Aug. 4) 1951.

Laboratory Tests.—False positive tests are the bane of the pathologist's work. They occur with all examinations performed in the laboratory. Much has been written in recent years of false positive Wassermann tests, to mention one example, and now we find that large doses of penicillin may give urinary reactions for albumin and glucose when both those items are actually absent.—E. Kellert, M.D., Laboratory Tests vs. Stethoscopes, *American Practitioner & Digest of Treatment*, July, 1953.

SIMPLE COUPLING DEVICE FOR POLYETHYLENE CATHETER

Ralph W. Alman, M.D.
and
Frederick G. Whoriskey, M.D., Cambridge, Mass.

With occasional exceptions in which knowledge is sought for its own sake, the ultimate purpose of research is the practical application of the principles investigated. The clinical use of research apparatus is often limited, however, by cost and highly specialized design. An inexpensive and simple means for connecting polyethylene tubing between 1.22 and 1.7 mm. (0.048 to 0.067 in.) in outside diameter to Luer-hub needles of any gage was developed in connection with investigations of cerebral hemodynamics. It was subsequently pointed out that the method would have definite clinical value, particularly in pediatrics, in situations in which such connections now require specially constructed needle hubs that often have numerous parts or relatively expensive, bulky, heavy adapters.

DESCRIPTION

Only two parts are needed to connect polyethylene catheters in the sizes mentioned to Luer-hub needles; an ordinary Luer-slip adapter (subsequently referred to as an impactor) from a 30 or 50 cc. syringe and a small bushing or gasket made by cutting off a 2 to 5 mm. length of rubber "uterine supporter" tubing; this material, used in conjunction with cup-and-belt pessaries, is commonly available in the operating room where it is often used to support "stay" or "tension" sutures. The rubber tubing measures 4.37 mm. (0.172 in.) in outside diameter and has a bore of 1.59 mm. (0.063 in.).

To prepare the attachment device, the impactor is slipped onto the catheter, the Luer-slip toward the junction end. Next, the junction end of the catheter is pushed through the gasket for 2 or 3 cm. and is then cautiously advanced to a match flame. The polyethylene will melt and retreat symmetrically along the outer surface of the catheter; after two or three seconds, when a sharp, solid flange or rim about 0.5 mm. thick has formed, the catheter tip is moved away from the flame and is allowed to cool for at least a minute. Finally, the gasket is pushed snugly against the newly formed flange, and the completed assembly is sterilized in a bland germicidal solution. It should be noted that formation of a flange of this size does not appreciably flare the catheter tubing or reduce the lumen diameter. The plastic material is not charred by the small amount of heat employed.

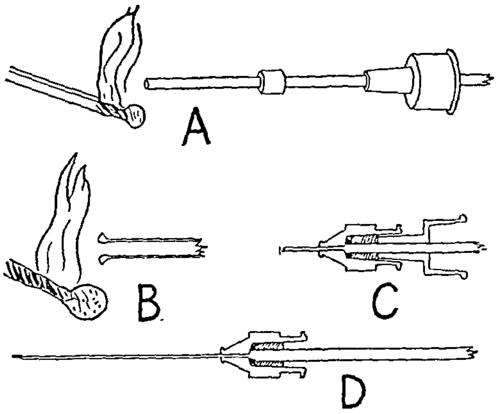
In use, the catheter is washed with sterile saline solution as are the junction end and the impactor. Coupling to any Luer-hub needle is performed merely by twisting the impactor to force the flanged junction end and gasket into the needle hub. The impactor is then removed by sliding it back along the catheter and off the unprepared end, or it may be left at any point on the tubing at which its weight will not cause inconvenience.

DURABILITY TESTS

Although the coupling has been found completely satisfactory in clinical use, it was deemed advisable to determine roughly the limits of stress that it could be expected to withstand. Because 1.7 mm. polyethylene tubing, which accepts an 18 gage needle, appears to be the size most commonly used, only this size was formally tested. A few cursory experiments with 1.22 mm. tubing indicated that a satisfactory seal is obtained with this smaller size because the rubber gasket is compressed by the tapering Luer-hub of the needle to which attachment is made.

Resistance to internal pressure was determined in 10 samples connected first dry and then wet to new and previously used needles, with gaskets ranging from 2 to 5 mm. in length. In no instance did the junction permit leakage of air or water under a pressure of 300 mm. Hg maintained for five minutes nor did disruption occur. Enough force could not be exerted manually against the plunger of a 5 cc. syringe to cause leakage of water or separation at the connection, although disruption could be caused by exerting great force on a 2 cc. syringe plunger; there was no leakage until the instant of disruption.

Resistance to possible entrance of air through the coupling was tested in the same samples. No demonstrable entrance of air occurred in any sample under negative internal pressure of 260 mm. Hg maintained for five minutes. Infiltration of air did not become apparent when maximum suction was applied to a 50 cc. syringe for one minute.



Steps in preparation of Luer coupling device: *A* and *B*, formation of flange; *C*, impaction of coupling into needle hub; and *D*, completed junction, with impactor withdrawn.

Mechanical strength of the coupling was tested by means of a spring scale calibrated against known weights. One sample, incorporating the shortest gasket, 2 mm. in length, and a new needle, both assembled dry, pulled apart consistently when a tension of 500 gm. was applied. Surprisingly, wet assembly, the condition encountered clinically, invariably nearly doubled the force required to separate the coupling. The strength of the union was also influenced by the length of the gasket; a 4 mm. gasket (the optimum) required a 700 gm. force to separate it from the needle if it had been connected dry and a 1,200 gm. force if it had been connected wet. When a coupling was attached wet to a previously used needle, the hub of which was internally scored by repeated attachment to syringes, the polyethylene tubing was cold-drawn to capillary thinness by tension before the connection separated.

COMMENT

Durability tests indicate that the coupling will neither leak nor separate under the greatest internal pressures likely to be applied in clinical use and that there is no hazard of air being admitted into any system in which such a coupling is used. These properties were not impaired by lack of care in preparing the gaskets, the faces of which were usually not exactly parallel, precisely plane, or very regular. All gaskets tested were cut with scissors. Although separation by mechanical tension could be completely prevented by substituting for the impactor a lock-type adapter with a shortened tip, this would require gaskets of precise length and would add unnecessary weight to the needle hub. Any force capable of separating the simpler coupling would undoubtedly first pull the needle from its insertion.

Absence of bulk and appreciable weight makes this coupling ideal for infusions in infants, where a length of very flexible small-bore tubing between needle and syringe will permit considerable movement of both patient and operator without dislodging the needle; metal adapters are heavy enough to pull out the needle by their weight combined with that of the hub. Additional advantages of the gasket attachment are that the lumen is not narrowed at the connection and that the junction will not leak after frequent use, as it will when the tubing of a hypodermic needle is repeatedly inserted into the catheter end. The cost of the gaskets is negligible, and an impactor becomes available each time a 30 or 50 cc. syringe is broken. The ease of fabrication is such that many lengths of polyethylene tubing can be prepared in a very short time.

SUMMARY

A new, simple means of attaching polyethylene catheters to Luer-hub needles is described, and proof of the durability of the coupling is given. The coupling is easily and quickly fabricated, negligible in cost and bulk, and very light in weight.

51 Brattle St. (38) (Dr. Alman).

TRANSRECTAL BIOPSY OF THE PROSTATE

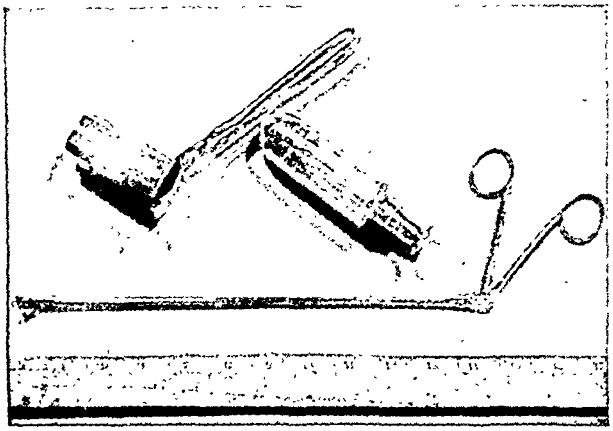
Harry Grabstald, M.D., Cleveland
and
James L. Elliott, M.D., New Orleans

There are indications for biopsy of the prostate when formal perineal exposure is not desirable, necessary, nor, on occasion, possible. The purpose of this report is to present a simple method for securing adequate prostatic tissue for biopsy. This technique was first used by one of us (J. L. E.) in 1947. The procedure has recently been followed in over 50 cases, without complications of any type; there have been no fistulas. We are unable to find reference to this technique in the literature.

TECHNIQUE

In this procedure saddle block anesthesia is preferable because of the degree of anal relaxation required. Biopsy tissue is secured with the patient in a modified jackknife position. The instrument utilized is the Fansler operating rectal speculum (see figure).* The wide caliber of the instrument permits ready palpation of the prostate and manipulation of the biopsy forceps through the lumen. Attempts to use simple anal specula or proctoscopes will likely result in failure, since most of them are designed for diagnosis and not for manipulative procedures.

Preliminary anal sphincter dilatation is important. As yet sphincterotomy has not been done, but were this necessary it would add no hazard to the procedure. The instrument is introduced and the obturator withdrawn. The end is pushed taut over the suspicious area involved, which is palpated without difficulty. A 1 cm. incision is made through the rectum with a pointed blade. The index finger is inserted through the rectum and the nodule palpated again. We utilize large, relatively nonflexible biopsy forceps (see figure) to remove bites of tissue 0.5 to over 1 cm. in size; the type of forceps used in cystoscopic biopsy did not prove satisfactory. The nodule can be easily palpated after each bite and biopsies repeated at the operator's discretion. We routinely remove four to eight fragments. The operating time is three to seven minutes. After the initial rectal incision is made, there is rarely even moderate oozing. This is easily controlled by pressure until the tissue is removed, after which suturing is done with a 00 chromic absorbable surgical, figure-of-eight or continuous suture. A 4 cm. by 8 cm. gauze bandage is placed over the biopsy site, with one end protruding from the anal orifice. This is removed the following morning.


Fansler operating rectal speculum and biopsy forceps.

Thorough preoperative catharsis is recommended. Streptomycin or phthalylsulfathiazole (Sulfathalidine) has been administered orally in many patients. The course has been an uneventful one in those to whom no oral medication has been given. We have used low residue or even clear liquid diets postoperatively. Again, the course has been no different in those who have had bowel movements the first postoperative day.

REPORT OF CASES

CASE 1.—A 64-year-old white man was admitted with a suspicious isolated stony hard prostatic nodule. A biopsy was made, using the described technique, and resulted in a diagnosis of carcinoma. Five days later, on Nov. 25, 1952, radical perineal prostatectomy was carried out. The rectum was examined at the conclusion of surgery, before closure, and there was no evidence of tear at the previously biopsied site. The catheter was removed on the 17th postoperative day, and there was minimal urinary incontinence. By the time of discharge, on the 24th postoperative day, the patient was no longer incontinent and he voided well, with good control.

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* The Fansler operating rectal speculum is manufactured by George P. Pilling & Sons, Philadelphia.

From the Crile Veterans Administration Hospital (Dr. Grabstald), and the United States Public Health Service Hospital (Dr. Elliott).

Case 2.—A 66-year-old white man underwent transrectal biopsy of an isolated prostatic nodule, which revealed adenocarcinoma. Radical retropubic prostatectomy was performed 14 days later on April 8, 1952. During surgery the rectum previously incised for the biopsy was opened in the same area. When surgery was completed the recognized rectal tear measured 3 to 4 cm. in length. The rectum was closed in layers, with fine, chromic absorbable surgical sutures. The bladder neck was loosely sutured to the membranous urethra. Postoperatively a rectovesical fistula developed, which required colostomy and suprapubic cystotomy. On Oct. 23, 1952, the fistula was closed by perineal approach without difficulty. We feel that the fistula resulted from the rectal tear. Had this tear been made at time of radical retropubic prostatectomy, and had it not been preceded by biopsy, the same result would have been inevitable. This complication is a technical factor secondary to radical retropubic prostatectomy and not to the biopsy.

Case 3.—A 67-year-old white man underwent segmental bladder resection for carcinoma on Dec. 11, 1951. Later an isolated pulmonary metastasis developed, and the patient was subjected to lobectomy by one of us (J. L. E.). The patient is well 16 months after surgery. On his last admission a hard prostate was noted. Transrectal biopsy made on Dec. 4, 1952, was positive for adenocarcinoma. Orchiectomy was performed, and diethylstilbestrol therapy started. One of the biopsied prostatic fragments showed transitional mucosa along one edge. The biopsy report was not received for 48 hours. A urethral catheter was then inserted for 24 hours. There were no complications of any sort.

Case 4.—A 58-year-old Negro man entered with urethral stricture dilatation. Rectal examination revealed an isolated stony hard nodule in an atrophic prostate. Transrectal biopsy was positive, and on Feb. 26, 1953, nine days after biopsy, radical retropubic prostatectomy was performed. The catheter was removed on the 19th postoperative day. Except for the urethral stricture, which required dilatation, the course was without complications.

Case 5.—A 62-year-old Negro man entered with a diffusely enlarged hard nodular prostate. On the first occasion transrectal biopsy, by the assistant resident, revealed only rectal tissue. In the submucosa definite infiltrating adenocarcinoma was noted. Repeat biopsy was performed through the same route and adenocarcinoma of the prostate found. It is unusual to find a prostatic tumor invading the rectum. This would not have been noted had biopsy by any other technique been done.

Case 6.—A 78-year-old white man underwent a rectal examination on admission, which revealed a definite stony hard prostate characteristic of carcinoma. Films of the lumbar region of the spine and the pelvis revealed an area in the right ilium suspicious of metastatic prostatic carcinoma. Acid and alkaline phosphatases were normal. The prostate was biopsied by the described technique, and the sections showed severe calcium deposition. There was no evidence of carcinoma. Skull films were negative for Paget's disease. Had the diagnosis of carcinoma been made clinically on the basis of rectal examination and x-ray examination this patient would have had orchiectomy and stilbestrol therapy. As it is, further treatment is unnecessary, and in retrospect the bone lesion in the ilium probably represents Paget's disease.

In one patient a fragment of seminal vesicle was obtained on biopsy, and epididymitis later developed.

COMMENT

The treatment of choice for early carcinoma of the prostate without fixation or metastasis and with normal phosphatases is formal perineal biopsy and frozen section, followed by radical perineal prostatectomy. Radical retropubic prostatectomy has been done, but there are no five year survival figures to date that merit comparison with the perineal procedure. With the introduction of retropubic prostatectomy, it was not long before a radical retropubic approach was advocated for early carcinoma by those not trained in perineal surgery. It is not within the scope of this report to compare the merits of radical perineal and radical retropubic prostatectomy. Needless to say, the former is a procedure of proved merit, while the latter has yet to be fully evaluated. In the cases described herein, one radical perineal and two radical retropubic prostatectomies have been carried out by one of us (H. G.) following transrectal biopsy. In the first case of a radical retropubic prostatectomy, complicated by fistula formation, surgery was done 14 days after biopsy. In the second, without such complication, a period of only nine days elapsed, thereby not justifying a longer waiting period. The difference lay in the fact that in the former case the rectal mucosa was exposed. Radical perineal prostatectomy was done five days after biopsy, without complication.

The obvious disadvantage of the retropubic approach is that operative biopsy with frozen section is not feasible. The suspected nodule noted on rectal examination is in the posterior lamella, while the operative exposure is anterior. Reports of radical retropubic prostatectomy for "suspected" carcinoma in which the removed tissue is benign are not too uncommon.

Perineal punch biopsy has been used to obviate this tragedy, but this technique has obvious shortcomings, most important of which is the incidence of false negative biopsy reports. As is well known, a negative report following perineal punch biopsy does not eliminate carcinoma. There are no figures to date concerning incidence of false negative perineal punch biopsies as proved by formal perineal exposure with repeat biopsy. The importance of such a correlative series is obvious. Hudson[1] is, at the present time, compiling statistics that reveal the incidence of false negative biopsies to be extremely high. The incidence of false negative reports with the frozen section method are also significant.

A transrectal approach to prostatic biopsy may be of special value in the following instances: 1. Positive biopsies can be secured before radical surgery, either retropubic or perineal, is carried out. Many patients will not consent to radical surgery unless a preoperative diagnosis is made, and many will not consent to orchiectomy without a definitive diagnosis. 2. In some hospitals frozen section techniques have proved to be unsatisfactory or are not possible at all times. 3. In many instances there are firm, but not stony hard, nodules. It has been customary to note such cases and to repeat the rectal examination in several months. In other cases estrogenic hormones have been given, with the supposition that if the nodule softens under this regimen there is added evidence favoring a diagnosis of carcinoma. Biopsy would appear to be the procedure of choice in these instances, since many are cases of early carcinoma and are amenable to radical surgery.

4. It is conceivable that the transrectal approach may be a distinct advantage in instances in which repeat biopsies are indicated, such as in research projects

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[1] Hudson, P. B.: Personal communication to the authors.

wherein prostatic changes under specific therapy are to be followed. In other instances, for statistical reasons, a positive biopsy is mandatory before beginning treatment. We have repeated the biopsies after short intervals without difficulty. 5. Higbee [2] reported 36 radical perineal prostatectomies, of which 5 (13.8%) showed benign tissue. In these cases radical surgery was performed on the basis of suspected carcinoma, but sections revealed only benign changes. In his series of 12 frozen section biopsies, there was disagreement in 3, that is, 3 operable patients were not subjected to radical surgery on the basis of false negative frozen biopsy reports.

6. Burgess and Evans [3] described certain types of carcinoma of the prostate in which the diagnosis is difficult. In instances of unusual bony metastasis or perhaps where there is difficulty differentiating Paget's disease from prostatic metastasis, as in our case,[1] it may be difficult to determine the primary site. If there is a possibility of prostatic tumor, biopsy is mandatory. 7. Although we have had no experience in this regard, it seems reasonable that the procedure might be of value in the diagnosis of such conditions as prostatic tuberculosis and prostatic sarcoma. 8. Recently, Thompson and Albers [4] have emphasized the difficulty in clinically differentiating granulomatous prostatitis from carcinoma. It would appear that the technique described herein would be a more appropriate method than the transurethral method.

SUMMARY AND CONCLUSIONS

A technique is presented for transrectal biopsy of the prostate. This procedure is recommended as a simple diagnostic tool, which has been used in over 50 cases without complications of any sort. There have been no fistulas. Larger prostatic fragments may be secured by this technique than by any other, except open exposure. The procedure may be repeated when necessary and has been followed by radical retropubic and perineal surgery. The procedure of choice for early carcinoma of the prostate remains formal exposure, frozen sections, and radical perineal prostatectomy. For those not trained in perineal surgery, however, this technique may prevent the needless radical retropubic removal of benign prostates for "suspected" carcinoma.

[2] Higbee, D. R.: Perineal Surgery in Carcinoma of the Prostate, J. Urol. 69: 144, 1953.

[3] Burgess, C. T. A., and Evans, R. W.: *Serum Acid Phosphatase in Diagnosis of Carcinoma of the Prostate*, Lancet 2: 790, 1949.

[4] Thompson, G. J., and Albers, D. D.: Granulomatous Prostatitis: A Condition Which Clinically May Be Confused with Carcinoma of Prostate, J. Urol. 69: 530, 1953.

Bovine Toxoplasmosis.—Toxoplasma, a protozoon heretofore not known to occur in cattle, was demonstrated in three cows, one bull, and two calves originating in four widely separated Ohio herds. Toxoplasma were recovered from two of these spontaneously infected calves and one cow by the mouse transfer technique and were demonstrated histologically in lesions of all six animals. . . . Bovine toxoplasmosis can conceivably be of public health significance, since Toxoplasma were demonstrated in the milk as well as edible portions of the beef carcass. In addition to milk, feces and sputum may be potential sources of infection for man and animals since Toxoplasma were found in pulmonary and gastrointestinal lesions.—V. L. Sanger, D.V.M., and others, Toxoplasmosis. V. Isolation of Toxoplasma from Cattle, *Journal of the American Veterinary Medical Association*, August, 1953.

COUNCIL ON PHARMACY AND CHEMISTRY

NEW AND NONOFFICIAL REMEDIES

The following additional article has been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its action will be sent on application.

R. T. STORMONT, M.D., *Secretary.*

Vitamin B_{12} with Intrinsic Factor Concentrate.—Bifacton (Organon).—A complex prepared from vitamin B_{12} and intrinsic factor concentrate. The latter is prepared from hog stomach.

Actions and Uses.—Vitamin B_{12}, also known as the extrinsic factor, when combined with intrinsic factor concentrate (a partially purified preparation of the intrinsic factor of Castle obtained from stomach tissue of hogs), is effective orally for the treatment of pernicious anemia with and without neurological complications. It is also effective by virtue of its vitamin B_{12} content in the treatment of tropical and nontropical sprue, nutritional macrocytic anemia caused by vitamin B_{12} deficiency, and macrocytic anemia of infancy. The intrinsic factor, which is lacking in patients with pernicious anemia, increases the efficiency of alimentary absorption of vitamin B_{12}.

Oral administration of vitamin B_{12} with intrinsic factor concentrate produces an adequate hematopoietic response in patients with pernicious anemia; therefore, it is suitable to replace injectable cyanocobalamin or liver for patients in whom parenteral therapy is difficult or undesirable. Patients should be carefully observed during oral treatment; if expected improvement does not occur, further examination should be made to rule out complicating disorders such as infection, gastrointestinal malfunction, or undiagnosed malignant disease. In the presence of any such complication, the dosage may need to be increased or abandoned in favor of injection therapy with cyanocobalamin or liver.

Vitamin B_{12} with intrinsic factor concentrate is fairly stable in dry form, but until more is known regarding the keeping qualities of the intrinsic factor, the mixture should be protected from moisture, light, and heat above 45° C. The mixture has not been reported to produce any toxic effects. The possibility of gastrointestinal allergy to hog protein, from which the intrinsic factor is derived, should be borne in mind.

Dosage.—Vitamin B_{12} with intrinsic factor concentrate is administered orally. The potency is expressed in terms of the U. S. P. oral unit of hematopoietic activity, assigned on the basis of clinical assays submitted to the U. S. P. Anti-Anemia Preparations Advisory Board. The declaration of the amount of cyanocobalamin present in preparations of the mixture is excluded to avoid the misleading implication that this represents additional hematopoietic activity in excess of the labeled unitage.

The average daily dosage for the treatment of pernicious and related macrocytic anemias is 1 U. S. P. oral unit daily, in two divided doses of one-half unit each before the morning and evening meals. In severe cases, a more rapid response may be achieved with an initial daily dosage of 2 U. S. P. oral units, also given twice daily in equally divided doses for the first one or two weeks of therapy. Reticulocyte values usually rise to peak levels within 5 to 12 days. Values for other formed elements of the blood approach normal within 8 to 10 weeks. Megaloblastic bone marrow may return to normal within a few days. Neurological complications usually are relieved within a period of 1 to 12 weeks, depending on their duration and the intensity of the therapy.

Organon, Inc., Orange, N. J.

Tablets Bifacton: Each tablet contains the equivalent of ½ U. S. P. oral unit. U. S. trademark 566,740.

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SUPPORT NEEDED FOR "BRICKER AMENDMENT"

For several months the press has carried accounts of the political "hassle" that has developed over a resolution introduced by Senator Bricker of Ohio proposing a constitutional amendment limiting the effects of treaty law. Inasmuch as this resolution would also apply to conventions of such groups as the International Labor Organization, the American Medical Association has been active in its support. Because of recent attempts to circumvent the purpose and intention of the resolution, it is important for the medical profession to know the facts and to renew its efforts to effect passage of Senator Bricker's proposal.

On Jan. 7, 1953, Senator Bricker and 63 cosponsors introduced S. J. Res. 1, 83rd Congress, which recommended that a constitutional amendment be adopted protecting the states and the people from abuse of the treaty making authority. This resolution was referred to the Senate Judiciary Committee together with S. J. Res. 43 (sponsored by the American Bar Association). On June 15, 1953, the committee submitted a favorable report on S. J. Res. 1, with amendments, and recommended that it be adopted. The amended version of the resolution, as approved by the committee, removes any possible doubt as to whether a treaty must be consistent with the Constitution. It stipulates that no provision of a treaty that violates the Constitution or that is inconsistent with the nature of the government of the United States shall be valid. It establishes by unequivocal language that the treaty power cannot be used for purposes in conflict with the Constitution. It also provides that a treaty shall become effective as internal law in the United States only through the enactment of domestic legislation that could have been adopted in the absence of a treaty.

In view of the fact that treaties and executive agreements have become wholly interchangeable instruments of national policy, it would be useless to adopt a constitutional amendment limiting the more difficult treaty method of concluding international agreements without defining the power of Congress to control the less difficult method. The resolution thus would subject executive and other agreements to regulation by the Congress and to the limitations imposed on the making of treaties.

S. J. Res. 1, as reported, will not affect the present method of negotiating and ratifying treaties. Treaties will continue to be negotiated by the President and ratified with the advice and consent of two-thirds of the Senators present and voting. The amendment will not prevent the President and the Senate from concluding a treaty otherwise valid under the Constitution on any subject whatsoever, nor will it affect in any manner treaties that do not make internal law in the United States. It will, however, make impossible the participation of any foreign nation by treaty method in the adoption of laws for the regulation of the conduct of the citizens of the United States. It will prevent the reduction of state power and the enhancement of federal power at the expense of the states through the ratification of a treaty. The balance of power between the states and the federal government will be subject to change only by the regular processes of constitutional amendment or judicial interpretation. The resolution will not render acts of Congress unconstitutional that have been adopted under a treaty concluded prior to the ratification of the proposed constitutional amendment; however, legislation enacted after the adoption of the amendment, in implementation of a treaty, will be subject to the provisions of the amendment irrespective of whether the treaty antedates the amendment.

During the closing days of the first session of the 83rd Congress, Senator Knowland of California introduced an amendment to S. J. Res. 1 (in the nature of a substitute), at the request of the administration, which differs from the Bricker Resolution in the following important respects: The Knowland proposal provides that a treaty shall become effective as internal law only through the enactment of appropriate legislation by the Congress "*when the Senate so provides in its consent to ratification.*" This is an old and discarded approach to the problem and one that involves no protection for American rights beyond what the American people now have —which protection depends on the Senate.

When ratifying a treaty, it will be necessary, under this proposal, for the Senate to determine whether anything in the fine print adversely affects domestic law and then include a reservation that such provision shall not become effective until implemented by legislation. Modern treaties are long and involved. Senators often do not have time to read and consider carefully provisions that may have been put into them affecting domestic law. In no other major country in the world is a treaty self-executing. In every other major country treaties require implementation by enactment of domestic legislation. It should not be left to the discretion of the Senate whether the House of Representatives shall be allowed to participate in making domestic law within the United States. This participation should be mandatory.

The Knowland proposal is in sharp contrast with the purpose of the Bricker amendment, which would safeguard the American people against living under laws imposed by international authority, particularly when such laws take precedence over and even conflict with our own American laws, including the Constitution of the United States. It is important, therefore, that members of the Senate and the House of Representatives be contacted while they are at home and before the second session of the 83rd Congress convenes and advised of the endorsement and active support of the medical profession of S. J. Res. 1 as reported by the Senate Judiciary Committee.

BILATERAL ADRENALECTOMY FOR CUSHING'S SYNDROME

Cushing in 1932 described a clinical entity characterized by the "moon face" appearance due to abnormal deposition of fat over the face and neck, the "buffalo hump" caused by a pad of fat over the cervicothoracic vertebrae, and, in contrast to the obesity of the upper half of the body, thin, weak extremities. The skin in these patients is thin, with distinctive purplish striations. Accompanying this characteristic appearance are hypertension; osteoporosis; ecchymosis; diabetes, frank or latent; amenorrhea; and diminished libido or impotence in men. Frequently there is hirsutism and acne. Cushing believed that this entity was caused by a pituitary adenoma or pituitary basophilism. Recent studies in endocrinology and in steroid chemistry have established that the so-called Cushing's disease is caused by hyperfunction of the adrenal cortex. The term Cushing's disease is now restricted to the few cases of Cushing's syndrome associated with basophilic adenoma of the pituitary, which is believed to stimulate the cortical adrenal secretions.

The pathological changes in the adrenals of Cushing syndrome are of three types: (1) adrenal hyperplasia without tumor, (2) hyperplasia with benign tumor of the adrenal cortex, and (3) hyperplasia with malignant tumor of the adrenal cortex. Hypersecretion of the adrenal 11-oxysteroids, particularly of corticosterone and 17-hydroxycorticosterone, are believed to account for most of the pathological and physiological changes in Cushing's syndrome. The cause of hyperadrenocorticism in the majority of patients with the Cushing syndrome is bilateral adrenal hyperplasia with no evidence of pituitary tumor. Most of the clinical and laboratory features of the syndrome have been reproduced by stimulation of the adrenal cortex with corticotropin or by administration of large doses of cortisone.

Priestley and co-workers [1] report on 29 patients with Cushing's syndrome operated on at the Mayo Clinic from 1945 to 1951. Surgical exploration in these cases failed to reveal a tumor of the adrenal cortex. There were 6 males and 23 females. With the preoperative and postoperative use of cortisone in nine of the patients, the immediate postoperative shock-like reaction was averted, in all but one case, without the use of aqueous adrenal cortical extract. These authors state that administration of cortisone for 24 to 72 hours will relieve the delayed reaction, and nausea, vomiting, anorexia, fever, and tachycardia disappear. Six of the 29 patients died. There have been no deaths in the last 10 cases. Nineteen patients obtained excellent remissions from Cushing's syndrome. These authors conclude that the clinical syndrome, whatever the primary cause, is dependent on hyperfunction of the adrenal cortex, and that their results indicate that the features of Cushing's syndrome can be relieved by removal of most of the adrenal cortical tissue. They also stress that hyperfunction of the adrenal cortices can exist in the absence of gross enlargement of the adrenal glands. Their practice was to perform an extensive subtotal resection of one adrenal gland and subsequently total removal of the other adrenal gland. They state that about 90% of one adrenal should be removed and a total adrenalectomy performed on the other side.

Poutasse and Higgins,[2] in a recent communication, report on 28 patients with Cushing's syndrome operated on in the Cleveland Clinic. Four of these had an adrenal adenoma, two had a malignant cortical tumor, and two more had small adenomas of the adrenal. The remaining 20 had normal-sized or enlarged adrenals.

Laboratory aids in diagnosis of adrenal tumor are the excretory urogram, perirenal gas insufflation, and translumbar aortography. These authors emphasize the protective influence of cortisone given prior to adrenal surgery. Operative stability is provided by administration of 100 mg. of cortisone intramuscularly about 12 hours before the operation, which is repeated again a few hours before the operation. This should be continued after operation in doses of about 50 mg. every 6, 8, or 12 hours as necessary. The dosage should be gradually reduced, and within three to six weeks there should be no further need for the drug. Signs and symptoms of adrenal insufficiency must be carefully watched for. These are nausea and vomiting, acne, muscle pains or stiffness, and an unexplained fever. They state that it is difficult to estimate how much adrenal tissue to leave in the body but that experience has shown that about 90% must be removed. Poutasse and McCullagh [3] emphasize that it is important to understand that Cushing's syndrome is a progressive disease that greatly shortens life expectancy. They state that surgical removal of hyperfunctioning adrenal cortical tumor usually results in remission of the syndrome and that subtotal adrenalectomy in bilateral hyperplasia also results in remission, provided sufficient adrenal cortical tissue has been excised.

The surgical therapy outlined, according to Poutasse and McCullagh, is the reflection of the present limited status of our knowledge regarding the control of the hyperfunctioning adrenal cortex. It appears to be justified in a condition that has a progressive course and that is not amenable to medical therapy.

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[1] Priestley, J. T.; Sprague, R. G.; Walters, W., and Salassa, R. M.: Subtotal Adrenalectomy for Cushing's Syndrome: Preliminary Report of 29 Cases, Ann. Surg. 134: 464-475 (Sept.) 1951.

[2] Poutasse, E. F., and Higgins, C. C.: Surgery of the Adrenal Gland for Cushing's Syndrome, J. Urol. 70: 129 (Aug.) 1953.

[3] Poutasse, E. F., and McCullagh, E. P.: Cushing's Syndrome, J. Urol. 68: 779-789 (Nov.) 1952.

MEDICAL NEWS

ARKANSAS

Society News.—The fifty year club of the Arkansas Medical Society has elected Dr. Merrieman L. Norwood, Lockesburg, president; Dr. Robert Caldwell, Little Rock, vice-president; and Dr. John H. McCurry, Cash, secretary-treasurer.

General Practitioners' Meeting.—The annual fall assembly of the Arkansas Academy of General Practice will be held at the Lafayette Hotel, Little Rock, Oct. 14-15. Out-of-state speakers will include Drs. Hampton C. Robinson, Houston, Texas, and Albert S. Dix, Mobile, Ala.

Personal.—Dr. Charles G. Leverett, McGehee, was recently elected to the McGehee school board.——Dr. Julius H. Hellums, Dumas, has been elected president of the Dumas Lions Club.——Dr. Hayden C. Nicholson, dean of the University of Arkansas School of Medicine, Little Rock, was recently elected chairman of the Community Council of Greater Little Rock.——Dr. Torrence J. Collier, Hot Springs National Park, was awarded the distinguished service plaque by the Arkansas Medical, Dental and Pharmaceutical Society "in appreciation of his unusual service rendered to the association." Dr. Collier, who served as president of the society in 1937, has been chairman of the exhibit and awards committee, which he created, for the past 15 years.

CALIFORNIA

Society News.—The Alameda-Contra Costa Medical Association, the Blood Bank, and the Bureau of Medical Economics recently moved to their new headquarters building at 6230 Claremont Ave., Oakland.

Physicians' Orchestra.—Dr. Reuben Straus, Los Angeles, has issued a call to musician members of the Los Angeles County Medical Association to form a symphony orchestra. The group will have free use of a large auditorium for rehearsals and of a fine library of symphonic music, belonging to a nationally prominent conductor who will direct them. Dr. Straus urges that those interested call him at Charleston 8-5531 or Crestview 4-6327.

Medical Photography Class.—Open to all persons interested in the details of medical photography, a University of California extension course in photography in medical practice and research will meet on Wednesdays at 7:30 p. m. in room 191 of the Business Administration and Economics Building at University of California at Los Angeles. Requests for information should be directed to Dr. Thomas H. Sternberg, Head of Postgraduate Instruction, Medical Extension, University of California, Los Angeles 24 (ARizona 7-4201).

ILLINOIS

Dedication of Psychiatric Research Laboratory.—The Thudichum Psychiatric Research Laboratory will be dedicated at the State Research Hospital in Galesburg, Oct. 17. Dr. Richard J. Graff, superintendent of the hospital, will be chairman during the morning session, which will begin at 10:30. Gov. William G. Stratton, Dr. Otto L. Bettag, director of the state department of public welfare, Springfield, and Dr. Percival Bailey, Chicago, research consultant of the department, will make the opening addresses. Dr. David McK. Rioch, technical director, neuropsychiatric division, Army Medical Service Graduate School, Washington, D. C., will read a paper "The Brain and Consciousness." Chairman of the afternoon session, 2:30 p. m., will be Dr. Ralph W. Gerard, Chicago, consultant in research, department of public welfare. Dr. Seymour S. Kety, associate director, in charge of research, National Institute of Mental Health, Bethesda, Md., will discuss "Circulation and Metabolism of the Human Brain," Dr. Wilhelm S. Feldberg, head of the physiology and pharmacology laboratory, National Institute for Medical Research, London, England, "Some Aspects of Chemical Transmission in the Central Nervous System," and Dr. D. Ewen Cameron, director, Allan Memorial Institute of Psychiatry, McGill University Faculty of Medicine, Montreal, Canada, "Extended Applications of Psychosomatic Theory in the Senium."

General Practitioners Meet in Decatur.—The annual scientific assembly of the Illinois Academy of General Practice will convene at the Masonic Temple in Decatur, Oct. 17-19, under the presidency of Dr. William H. Walton, Belleville, who will be moderator at a round-table luncheon, Sunday, 12:15 p. m., at the Hotel Orlando. A regional chapter secretaries' conference will be held, at 4:30 p. m., in this hotel, where, at 6:30 p. m., a hospitality hour will precede the annual banquet, and Countess Maria Pulaski will give her speech, "My Life as a Spy." Out-of-state speakers for the scientific sessions include:

Arthur W. Neilson, St. Louis, Industrial Dermatitis in General Practice.
Edgar S. Brintnall, Iowa City, Varicose Veins and Varicose Ulcer.
Michael Somogyi, Ph.D., St. Louis, Therapeutic Diets for Diabetes.
Wendell G. Scott, St. Louis, Pitfalls in the Diagnosis of Carcinoma of the Colon.
Paul S. Williamson, Walsh, Colo., The Future of the Younger Physician.

Drs. Robert M. O'Brien, Robert H. Ramsey, Frederick C. Reynolds, and Edmund A. Smolik, St. Louis, will participate in an orthopedic symposium Sunday afternoon.

Chicago

Sir James Ross Visits Chicago.—Sir James Paterson Ross, director of surgery, St. Bartholomew's Hospital, London, who will be the guest of the department of surgery, Northwestern University Medical School for the week beginning Oct. 12, will deliver the Charles H. Mayo lecture, "Some Unsolved Problems on the Surgery of the Sympathetic Nervous System," at 4 p. m., Oct. 12, at Thorne Hall, located on the medical school campus at the corner of Lake Shore Drive and Superior St. All physicians are cordially invited. For the remainder of the week, Sir James will be at Passavant Memorial, Wesley Memorial, and Evanston hospitals, where he will conduct operative clinics and participate in a series of ward rounds and surgical conferences.

Pediatric Research Benefit.—A luncheon and style show will be presented by the John T. Shayne Company for the Women's Faculty Club of Northwestern University Medical School, Oct. 13, 12:30 p. m. in the Terrace Casino of the Hotel Morrison. The primary purpose of the club, a service organization composed of wives of physicians associated with the medical and dental schools in a voluntary teaching capacity, and others interested in the medical program, is to stimulate community interest in the university's medical school clinics, to assist in the care of its clinic patients, and to develop new projects in clinics already organized. Club members seek to raise funds for medical research, particularly in the field of pediatrics. The group is currently sponsoring two fellowships, one in pediatric surgery, held by Dr. Roberto Ortiz, and one in pediatric medicine, held by Dr. Fern L. Stevenson, both at Children's Memorial Hospital. Tickets for the luncheon and style show are $5.50. The following prizes will be given: (1) a natural starlight ranch mink cape stole (through the cooperation of John T. Shayne), (2) an original suit by Seymour Fox (valued at $150, donated by John T. Shayne), and (3) a $100 merchandise certificate (donated by Saks Fifth Avenue).

Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education and public health. Programs should be received at least three weeks before the date of meeting.

INDIANA

Meeting on Air Pollution.—The Midwestern Air Pollution Prevention Association will meet at the Gary Hotel, Gary, Oct. 15-16, under the sponsorship of the Armour Research Foundation of Illinois Institute of Technology, Chicago, to discuss groundwork for a concerted two state attack on industrial air pollution.

MASSACHUSETTS

Philippine Gift in Memory of Richard Strong.—Officials and employees of the Republic of the Philippines have contributed 1,000 pesos ($500 in U. S. currency) to the Harvard School of Public Health, Boston. In making the gift, which will go toward the Strong Professorship of Tropical Public Health, Dr. Juan Salcedo Jr., secretary of the Department of Health of the Republic of the Philippines, noted that the money had been raised through voluntary contributions from officials and employees of the Philippine department of health. "While the amount of our contribution is modest," he wrote, "our feelings for the purpose of the fund are strong. We recall with a deep sense of gratitude the many years of devoted service of the late Colonel Richard Pearson Strong in the Philippines."

Commissioned in the Army Medical Corps and sent to the Philippines during the Spanish-American War, Dr. Strong became the first president of the Army Medical Research Board, established to study tropical diseases, and discovered the dysentery bacillus that bears his name. In 1902, he resigned his commission to serve the Philippine government and for 11 years was director of the biological laboratories of the Philippine Bureau of Science as well as chief of the medical department of the Philippine Islands General Hospital and professor of tropical medicine at the University of the Philippines. Returning to the United States in 1913, he became professor of tropical medicine at Harvard, a position he held until he became emeritus professor in 1938. Dr. Strong's contributions to the knowledge of sleeping sickness, yellow fever, and malaria in the Belgian Congo from 1926 to 1927 and in 1934 prompted the Belgian government last year to make a gift toward the Strong Professorship.

MICHIGAN

Nutrition Day.—Michigan Nutrition Day will be observed, Oct. 12, under the sponsorship of the Michigan Nutrition Council and Michigan State College, East Lansing, where a program, "Our Changing Food Supply," will be presented in the auditorium building (morning sessions) and at the Kellogg center (luncheon and afternoon sessions). Leonard A. Maynard, Ph.D., director, School of Nutrition, Cornell University, will talk on world food problems at the opening session. Elmer M. Nelson, chief, division of nutrition, Food and Drug Administration, Washington, D. C., will present "The Philosophy of Food Fortification" at the luncheon meeting, 12:30 p. m., and will also participate in a panel on food fortification, 2-4 p. m., with Dr. John K. Altland, director, division of local health administration, Michigan Department of Health, and Miss Linnea Anderson, nutritionist, Michigan Department of Health. Other panels to be presented simultaneously are "The Soil as It Affects the Nutritive Quality of Food," "Food from the Garden to the Table," "Chemicals in Foods," and "Fluoridation of Public Water Supplies." Dr. Winston B. Prothro, public health director, Grand Rapids, will participate in the fluoridation panel.

MISSOURI

Personal.—Dr. Philip J. Aquino, Caruthersville, has been elected president of the Caruthersville Rotary Club.——Dr. Alphonse McMahon, St. Louis, who served in the Medical Corps of the U. S. Navy in World War II, recently was promoted to rear admiral, Naval Reserve Corps. In recognition of the honor, Dr. McMahon was given a reception at St. John's Hospital, where he is chief of staff. Dr. McMahon is president-elect of the Southern Medical Association.

Surgical Society Meeting.—The St. Louis Surgical Society will meet in the auditorium of the medical society building, Oct. 13, 8:30 p. m. The program will consist of a symposium, "Advances in Anesthesia," which will be moderated by Dr. C. Rollins Hanlon, professor of surgery, St. Louis University School of Medicine. All members of the medical profession are invited to attend dinner at the Sheraton Hotel, preceding the meeting. Reservations should be made through the office of the society, Franklin 5225. A cash bar will be open at 6:30 p. m. before the dinner.

NEW JERSEY

Lecture on Allergy.—On Oct. 15, 9 p. m., the New Jersey Allergy Society, in conjunction with the Academy of Medicine of New Jersey, will present Dr. George Piness, Los Angeles, in a lecture "Allergy in General Practice" at the academy, 91 Lincoln Park, Newark.

Hearing and Speech Center.—The Newark Eye and Ear Infirmary, 77 Central Ave., Newark, announces the opening of the Henry C. Barkhorn Memorial Hearing and Speech Center. Services such as the diagnosis of hearing difficulties, fitting and prescription of hearing aids, and special evaluation and correction are available. Physicians who wish to refer patients may obtain details by writing to the infirmary.

NEW YORK

Society News.—At a meeting of the Medical Society of the County of Kings and the Academy of Medicine of Brooklyn, Oct. 20, 8:45 p. m., MacNaughton Auditorium, the Hon. Samuel S. Leibowitz, judge, Kings County, will have as his topic "The Doctor Testifies." The meeting will open with the inaugural address of Dr. Alfred P. Ingegno, president, Medical Society of the County of Kings, whose topic will be "Medical Care Plans and Medical Snare Plans."——At its annual meeting the Medical Society of the County of New York presented its first distinguished service citations to Drs. Madge C. L. McGuinness and J. Homer Cudmore, New York, for their long and distinguished activities within the councils of the society. The citations are granted with the approval of the Comitia Minora and can be awarded not only to members of the society but to other distinguished physicians, scientists, or persons for notable contributions to the profession of medicine.

New York City

Harvey Lecture.—Hans H. Weber, professor of physiology and director of the Physiological Institute, University of Tübingen, Germany, will deliver the Harvey lecture, "Adenosinetriphosphate and Motility of Living Systems," at the New York Academy of Medicine, Oct. 15.

Symposium on Cardiac Rehabilitation.—A symposium, entitled "Rehabilitation in the Cardiac," will be presented by the New York Society for Circulatory Diseases at its meeting, Oct. 13, 8:30 p. m., in room 440, New York Academy of Medicine building. Dr. Simon Dack will preside. Guest speakers will include Drs. Samuel Kahn, Herman J. Bennett, Irvin Klein, and Abraham Jezer. Members of the medical profession are invited.

Personal.—Dr. Harold Brandaleone, medical director of the Third Avenue Transit System, presented a paper, "Medical Aspects of Accident Prevention" before the Ohio State Safety Conference in Cleveland, Sept. 15.——The Metropolitan Life Insurance Company, which has announced its decision to merge its occupational health and safety services under a new unit known as the Safety and Occupational Health Bureau, has appointed Dr. William J. McConnell, assistant medical director of the company, as director of the bureau.

Columbia-Presbyterian Silver Anniversary.—The Columbia-Presbyterian Medical Center will celebrate its 25th anniversary, Oct. 12-13. The center includes the Babies Hospital, the Institute of Ophthalmology, the Neurological Institute, the New York Orthopedic Dispensary and Hospital, the Presbyterian Hospital, Harkness Pavilion, Sloane Hospital for Women, Squier Urological Clinic and Vanderbilt Clinic, and the Mary

Harkness Convalescent Home at Port Chester, N. Y. (units of Presbyterian), and the school of medicine, school of dental and oral surgery, school of nursing and the school of public health (units of Columbia University), as well as Bard Hall, residence for medical students, Anna C. Maxwell Hall, student nurse residence, and Harkness Memorial Hall, apartment residence for graduate nurses. Affiliated units of the center include two municipal institutions, the Francis Delafield Hospital and the Washington Heights Health and Teaching Center, and one state institution, the Psychiatric Hospital and Institute. (See The Journal, April 11, 1953, page 1295.) There will be papers, Monday morning, by Dr. Hugh R. Leavell, professor of public health practice, Harvard University, Boston, Dr. Joseph L. Lilienthal Jr., professor of experimental medicine, Johns Hopkins University, Baltimore, Dr. William C. Stadie, John Herr Musser professor of research medicine, University of Pennsylvania, Philadelphia, and Dr. A. Ashley Weech, professor of pediatrics, University of Cincinnati. The afternoon session will be devoted to eight concurrent symposiums. Alumni association cocktail parties will be given Monday evening at the Waldorf Astoria Hotel, and the Columbia-Presbyterian Medical Center banquet will be held in the hotel ballroom, where a panel will discuss "Responsibilities and Opportunities of the Medical Center in the Next 25 Years." Tuesday morning the following presentations will be made:

Progress in Cancer Research, Alfred A. Gellhorn, director, Institute for Cancer Research.

Role of the Internist in Medicine Tomorrow, Robert F. Loeb, executive officer, department of medicine.

Study of Human Reproduction, Howard C. Taylor Jr., executive officer, department of obstetrics and gynecology.

New Direction in Surgery, George H. Humphreys II, executive officer, department of surgery.

Honorary degrees and distinguished service awards will be presented during the academic convocation in the hospital garden, 2:30 p. m.

NORTH CAROLINA

Personal.—Dr. Edmond L. Rice, Gastonia, has gone to Lahore, Pakistan, where he will serve as medical missionary of the Methodist Church. Dr. Rice served as a medical missionary in China from 1934 to 1947, except for the war years, when he was surgeon of the Hugh Chatham Memorial Hospital in Elkin.

Symposium on the Kidney.—The Raleigh Academy of Medicine will hold its fifth annual medical and surgical symposium, Oct. 16, at the Hotel Sir Walter in Raleigh. The following symposium on the kidney will be presented:

Franklin A. Kyser, Chicago, Preservation of Renal Function.

Charles P. Barnett, New York, Renal Disease in Children.

Willoughby E. Kittredge Jr., New Orleans, Role of Infection and Obstruction in Renal Disease.

B. Vincent Hall, Ph.D., Urbana, Ill., Renal Filtration and the Ultramicroscope Structure of the Glomerulus.

Joseph F. A. McManus, Birmingham, Ala., Pathological Physiology of Renal Disease.

Homer W. Smith, Sc.D., New York, Historical Perspective in Renal Physiology.

The symposium has been approved by the American Academy of General Practice for postgraduate training credit. There is no registration fee, and all physicians of the state are cordially invited to attend the symposium and the academy dinner, as guests. Registration begins at 9 a. m., with the first speaker at 10 a. m.

OHIO

Personal.—On his 70th birthday, Dr. Carl J. Wiggers, honorary professor of physiology at Frank E. Bunts Educational Institute associated with the Cleveland Clinic, received the degree doctor of medicine honoris causa from the medical faculty of the Ludwig Maximilian University at Munich, Germany, where, in 1912, he had been a pupil of Otto Frank in the physiological institute.——Dr. David W. Heusinkveld, Cincinnati, councilor of the first district, Ohio State Medical Association, has been elected president of the Ohio Tuberculosis and Health Association.——Dr. Marion A. Blankenhorn, professor of medicine, University of Cincinnati College of Medicine, who attended the Youngstown Hospital Association, August 17-19, conducted ward rounds, clinical conferences, and meetings for the house and visiting staffs and gave a formal evening lecture under the sponsorship of the medical staff of the hospital.

Northwestern Ohio Medical Meeting.—The 109th assembly of the Northwestern Ohio Medical Association will be held at the Academy of Medicine, Toledo, Oct. 14. After an address of welcome by Dr. Wendell W. Green, president of the Toledo and Lucas County Academy of Medicine, the following program will be presented:

H. Keith Fischer, Philadelphia, Psychiatry and the Physician's Responsibility in Teen Age Development and in the Problems of Young Adults.

Charles P. Bailey, Philadelphia, Advances in Cardiac Surgery.

Ernest M. Brown Jr., Philadelphia, Uses and Abuses of ACTH and Cortisone Therapy.

Informal round-table conferences with guest speakers will be held during luncheon, 12:20-1:30 p. m. Afternoon presentations will include "Ovarian Cancer" by Dr. Craig W. Muckle, Philadelphia, and "Advances in Pediatric Surgery" by Dr. H. William Clatworthy, Columbus. The registration fee, $10, for all members and nonmembers includes cost and noon dinner. Reservations may be made through Dr. Henry B. Larzelere, Program Chairman, Northwestern Ohio Medical Association, 1838 Parkwood Ave., Toledo 10.

OREGON

University News.—At the University of Oregon Medical School, Portland, Dr. Harry G. Beckwith Jr., Wheeler, has been appointed visiting clinical instructor in surgery; Dr. Lowell W. Keizur, Longview, Wash., clinical instructor in urology; and Dr. Nathaniel D. Wilson, Portland, clinical instructor in surgery.——Dr. Thomas E. Talbot, assistant professor of ophthalmology, University of Oregon Medical School, Portland, and for the past two years supervisor of the children's eye clinic, has resigned to enter private practice. He will be replaced by Dr. John P. Keizer, who will hold the academic rank of instructor.——The Oregon State Elks Association recently contributed $10,162 in continuing support of its program to aid visually handicapped children. The funds will be administered under the direction of Dr. Kenneth C. Swan, head of the department of ophthalmology, University of Oregon Medical School, Portland.

State Medical Meeting at Portland.—The 79th annual session of the Oregon State Medical Society will convene at the Masonic Temple in Portland, Oct. 14-17, under the presidency of Dr. John D. Rankin, Coquille. All members of the society are invited to attend the daily 7 o'clock breakfast meetings of the house of delegates in the Georgian Room, Hotel Heathman. The Sommer Memorial Lectures will be delivered by Dr. Russell L. Cecil, New York, ("The Treatment of Chronic Arthritis," "Old Age and the Vices," and "Influenza and the Common Cold"); Dr. Arthur P. Stout, New York, ("Relation of Benign Breast Lesions to Cancer," "Tumors of Soft Tissues," and "Early Diagnosis of Carcinoma of the Prostate"); and Dr. Philip D. Wilson, New York, ("Stress Reactions Following Operations on the Bones and Joints," "An Evaluation of the Bone Bank After Six Years' Experience and Follow-Up," and "Low Back Pain and Sciatica"). Clinical pathological conferences will be held at 3:30 p. m. Wednesday and 11 a. m. Thursday. There will be a panel discussion, "The Management of Important Fluid and Electrolyte Disturbances in Medical and Surgical Patients," at 2 p. m. Wednesday. The social hour in the Emerald Room of the Hotel Multnomah will precede the annual banquet in the grand ballroom, 7 p. m., which will be addressed by Alfred K. Schwette, Seattle, chairman, Committee on Peace and Law, American Bar Association. The annual Oregon medical golf tournament will be held at the Portland Golf Club, Saturday, 7:30 a. m. There will be a football game between the University of Oregon and the University of Washington at Multnomah Civic Stadium, 1:30 p. m.

PENNSYLVANIA

Society News.—At a recent meeting, Dr. Albert A. Martucci, Philadelphia, was elected president of the Pennsylvania Academy of Physical Medicine and Rehabilitation; Dr. Francis J. Bonner, Ardmore, vice-president; and Dr. J. Murl Johnston, Pittsburgh, secretary-treasurer.

Seminar on Physical Medicine.—The Pennsylvania Academy of Physical Medicine and Rehabilitation and the New Jersey Society of Physical Medicine will hold a joint seminar on physical medicine and rehabilitation, Oct. 17, 1:30 p. m., at Sacred Heart Hospital, Allentown. The following papers will be presented:

Rehabilitation of Injuries of the Hand, Harry Miller, Allentown.
Recent Advances in Arthritis, Richard T. Smith, Philadelphia.
Peripheral Vascu'ar Disease, Bruce R. Marger, Quakertown.
Hemiplegia, J. Murl Johnston, Pittsburgh.
Shoulder, William H. Schmidt, Philadelphia.
Poliomyelitis, George J. Boines, Wilmington, Del.

Dinner at the American Hotel will be followed at 8:15 p. m. by a symposium on low back pain, with Dr. Dominic A. Donio, Allentown, moderator. Physicians, therapists, nurses, and students are cordially invited to attend. Dinner is $5 per person; there is no fee for the seminar.

Philadelphia

Lectures on Medical History.—The Section on Medical History of the College of Physicians of Philadelphia announces six weekly lectures on medical history for students of all Philadelphia medical schools at the Hall of the College of Physicians, 19 So. 22nd St., on Monday evenings, 7-8 p. m., beginning Oct. 12. The course covers an introduction on the meaning and values of medical history, classical and medieval medicine, renaissance medicine, medicine during the 17th, 18th, 19th, and 20th centuries, and the social aspects of medical history. Supported by the five medical schools of Philadelphia, the course will be conducted by Richard H. Shryock, Ph.D., and Dr. Owsei Temkin, both of the Institute of the History of Medicine at Johns Hopkins University School of Medicine, Baltimore.

TENNESSEE

Public Medical Forums.—The Public Service Committee of the Nashville Academy of Medicine and the Nashville *Banner* are sponsoring public medical forums during October and November. The forums will be held in three large Nashville high school auditoriums and in the War Memorial Building. Subjects to be discussed by members are: "Nutrition and Overweight," "Cancer," "The Overuse and Abuse of Drugs," and "Accidents to Children."

Civil Defense Course.—An eight hour civil defense lecture course, "Standard Emergency Treatment of Atomic Bomb Injuries," is being offered to Tennessee physicians under the sponsorship of the Tennessee State Medical Association. The West Tennessee schedule, which initiates the course, began in Union City, Oct. 7. The remainder of the West Tennessee schedule for October (all lectures at 4 p. m.) is as follows: Union City, Oct. 14, First Christian Church; Ripley, Oct. 14 and Oct. 21, First Christian Church; Jackson, Oct. 21 and Oct. 28, Jackson-Madison County General Hospital.

Society News.—The following groups recently elected officers: Tennessee Academy of Ophthalmology and Otolaryngology: president, Dr. Clyde R. Kirk, Chattanooga; vice-president, Dr. Charles M. King, Memphis; secretary-treasurer, Dr. John T. Bryan, Nashville.——Tennessee State Pediatric Society: president, Dr. Amos Christie, Nashville; vice-president, Dr. Luke L. Ellenburg, Greeneville; secretary-treasurer, Dr. Philip C. Elliott, Nashville.——Tennessee Academy of General Practice: president, Dr. Louis A. Killeffer, Harriman; president-elect, Dr. Ben L. Pentecost, Memphis; vice-presidents, Drs. Rae B. Gibson, Greeneville, J. Fred Terry, Cookeville, and John A. McQuiston, Memphis; secretary-treasurer, Dr. Daniel J. Johns, Nashville.——The Tennessee Thoracic Society: Dr. David H. Waterman, Knoxville, president; Dr. Duane M. Carr, Memphis, vice-president; and Dr. Hollis E. Johnson, Nashville, secretary-treasurer.

GENERAL

Meeting of American Fracture Association.—The annual meeting of the American Fracture Association will be held at the Mission Inn, Riverside, Calif., Oct. 12-15. Guest speakers will be Dr. Earl D. McBride, Oklahoma City, and Dr. Juan Faril, Mexico City, Mexico. A feature of the meeting will be a round-table discussion on prosthetic replacements in hip fractures and allied conditions.

Occupational Accidents.—According to the 1953 edition of the National Safety Council's statistical annual, "Accident Facts," 15,000 persons were killed and 2,000,000 injured while at work in 1952. The total time lost as a result of occupational injuries was 250 million man-days, and the cost to American industry was $45 per worker. Detailed statistical information is provided on motor vehicle, transportation, home, farm, and school accidents. Single copies of the book may be obtained from the National Safety Council, 425 N. Michigan Ave., Chicago 11, at 75 cents. Prices are reduced for quantities.

Rockefeller Foundation Report.—According to the annual report of the Rockefeller Foundation, a total of $16,640,355 was appropriated in 1952, and of this amount $3,599,698 was applied to work in medicine and public health. Of the latter amount, $275,000 was set aside for 1953 virus investigations carried out by the foundation staff members, and $728,258 was allocated for field service expenses in 1953. For its fellowship activities in 1952, the foundation made available a total of $1,050,000. To advance this program in 1953 the sum of $1,025,000 was allocated for use by the several divisions as follows: medicine and public health, $400,000; natural sciences and agriculture, $300,000; social sciences, $175,000; and humanities, $150,000.

Anesthesiologists Meet in Boston.—The New England Society of Anesthesiologists and the Massachusetts Society of Anesthesiologists will hold a combined meeting, Oct. 16, at Joslin Auditorium of the New England Deaconess Hospital, Boston. The forenoon is reserved for clinics. In the afternoon the following program will be presented:

Anesthesia Mortality Committee: Presentation of Cases, Jacob H. Fine, Chairman, Beverly, Mass.
Anesthesia for the Acutely Burned Patient, John Bunker, Boston.
Anesthesia for Surgery of the Acute Abdomen, Arthur E. Ogden, Boston.

Guest speaker at the evening scientific program will be Dr. Enrico Ciocatto, professor of anesthesiology at the University of Turin, Italy. Physicians and medical students are invited.

Fund for Teachers and Investigators.—The John and Mary R. Markle Foundation will continue for a seventh year the Scholar in Medical Science program to help scientists on medical school faculties to become established as teachers and investigators in their chosen fields. A total of 111 scholars on the staffs of 55 medical schools in the United States and Canada have been aided by these grants since the program began. Each medical school is invited to nominate one faculty member as a candidate for the five year, $30,000 grant. For support of each scholar selected, the medical school receives an annual grant of $6,000 for the term of the appointment. All nominations should be in the foundation offices on or before Dec. 1. A booklet giving further information may be obtained from the foundation, 14 Wall St., New York 5.

International Union of the Physiological Sciences.—During the meeting of the International Physiological Congress in Montreal, Canada, official delegates from physiological societies of 17 countries voted unanimously to form the International Union of the Physiological Sciences. A council of 11 members was elected, with Dr. Charles H. Best, Toronto, as president and Dr. Maurice B. Visscher, Minneapolis, as secretary for three year terms. The council was instructed by the assembly of the I. U. P. S. to complete arrangements for adherence to the International Council of Scientific Unions and the Council for International Organizations in the Medical Sciences and to initiate actions looking toward improvements in the abstracting and indexing of literature in the physiological sciences on a world basis.

Fiftieth Anniversary Issue.—The July issue of *The Journal of Bone and Joint Surgery* is the 50th anniversary issue. The publication, which originally appeared under the name of the *American Journal of Orthopedic Surgery*, was subsequently named the *Journal of Orthopedic Surgery* when it became the official publication of the British Orthopedic Association, formed at the close of World War I. In 1922 the present title was adopted; in 1935 the journal, which had hitherto been the official publication of the American and the British journals of orthopedic surgery, became the official organ of the American Academy of Orthopedic Surgeons, and in 1950, of the American Society for Surgery of the Hand. In 1948 the journal was divided into volume A, representative of American orthopedic surgery, and volume B, representative of British orthopedic surgery, each complementing the other and each published by the orthopedic surgeons of the respective country.

Accidents Among Teen-Agers.—According to the Metropolitan Life Insurance Company, accidents constitute the greatest threat to teen-agers. A study of experience among industrial policyholders of the company shows that between ages 13 and 19 the death rate among boys rises from 0.64 to 1.31 per 1,000 but among girls from 0.37 to only 0.56 per 1,000. In 1950-1952 the death rate from accidents for girls doubled from ages 13-14 to 18-19 years, when it reached 14.7 per 100,000; the death rate for boys almost tripled over the same age range, reaching a level of 85.7 per 100,000 at 18-19. Motor vehicle accidents, the leading cause of accidental death among teen-agers, increase rapidly in relative importance during this period. At ages 18-19, they accounted for almost two-thirds of all accidental deaths among boys and about four-fifths of those among girls. Among teen-age boys, drowning ranked second as a cause of accidental death, with firearms third and occupational accidents fourth.

Fellowships in Tuberculosis Research.—The American Trudeau Society annually provides a limited number of fellowships to promote the training and development of investigators in the field of tuberculosis and related pulmonary diseases. The awards are open to citizens of the United States for work within this country. Preference is given to candidates not more than 30 years of age who have the degree of doctor of medicine or other doctoral degree. Within the field of research on tuberculosis, applications will be considered in the special disciplines of clinical medicine and surgery, epidemiology, chemistry, microbiology, pathology, and pulmonary physiology. Stipends may vary from $3,000 to $3,600 per annum. No other remunerative work will be permitted during the tenure of the fellowship. Appointments are made for one year but may be renewed up to three years. Details may be obtained from the Director of Medical Research, American Trudeau Society, % Henry Phipps Institute, Seventh and Lombard Streets, Philadelphia 47.

Grants for Muscular Dystrophy Research.—The Muscular Dystrophy Associations of America, Inc., 39 Broadway, New York, announces four grants, the largest of which will be used for expansion of the muscular dystrophy research program at New York Hospital, under the supervision of Dr. Ade T. Milhorat. It includes studies involving a metabolism ward, dietary kitchen, extensive laboratory facilities, and a staff of investigators and technicians. The program will be expanded at a yearly increase of $44,000 to a total annual cost of $105,495. The other grants are (1) to Dr. Archibald R. Buchanan and Verne van Breeman, University of Colorado, Denver, $7,722 for "Electron Microscope Studies of Neuromuscular Relationships under Normal and Pathologic Conditions"; (2) to Dr. Georges Schapira, Laboratoire de Recherches de Biochimie Medicale, Paris, France, $6,500 for continuation of studies on "Biochemistry of Muscle in Progressive Muscular Dystrophy"; and (3) to Dr. Kenneth L. Zierler, Johns Hopkins Hospital, Baltimore, $4,050 for continuation of studies on "The Relation of Vitamin E to Glycolysis in Skeletal Muscle."

Noise Abatement Symposium.—The national noise abatement symposium will be held at the Armour Research Foundation of Illinois Institute of Technology (35 W. 33rd St., Chicago), Oct. 23-24, under the joint sponsorship of the A. M. A. Council on Industrial Health, Acoustical Materials Association, Acoustical Society of America, American Industrial Hygiene Association, American Institute of Architects, American Society of Planning Officials, American Society of Safety Engineers, Armour Research Foundation of Illinois Institute of Technology, and the National Noise Abatement Council. Friday and Saturday mornings will be devoted to discussions on outdoor noise. The Friday luncheon meeting, 12:15-1:45 p. m., will be addressed by C. A. Armour, vice-mayor and commissioner of police and fire, Memphis, Tenn., whose topic will be "Noise Abatement, Memphis Style." Under the general topic, "The Noise Hazard Situation," the following topics will be considered Friday afternoon: "The Relation of Hearing Losses to the Noise Exposure in Industry," "Recent Noise Hazard Legislation and Its Implications," and "Combating the Effects of Noise." The Saturday luncheon meeting will be addressed by Vern O. Knudsen, Ph.D., University of California, Los Angeles, whose topic will be "Noise and Culture."

Society News.—**The American Congress of Physical Medicine and Rehabilitation** has elected Dr. William B. Snow, New York, president; Dr. William D. Paul, Iowa City, president-elect; Dr. Frances Baker, San Mateo, Calif., secretary; and Dr. Frank H. Krusen, Rochester, Minn., treasurer. Vice-presidents are Drs. Howard A. Rusk, New York, Gordon M. Martin, Rochester, Minn., Alvin B. C. Knudson, Washington, D. C., Donald L. Rose, Kansas City, Kan., and Arthur C. Jones, Portland, Ore. Dr. Walter J. Zeiter, Cleveland, is executive director, and Dorothea C. Augustin, Chicago, is executive secretary.——**Carbon Dioxide Research Association** was recently incorporated under the laws of the state of New York to succeed the Committee on Carbon Dioxide Research. The officers of the association are Dr. Albert A. LaVerne, New York, president; Drs. Ladislas J. Meduna, Chicago, and Robert B. McGraw, New York, vice-presidents; Dr. Abraham I. Jackman, Chicago, corresponding secretary; Dr. John D. Moriarty, Los Angeles, recording secretary; and Dr. Robert E. Peck, New York, treasurer. Physicians who desire to become members or who are interested in obtaining information relative to the use of carbon dioxide therapy in psychiatry should contact the corresponding secretary. Membership fee, $5.

Clinical Pathologists Meet in Chicago.—The American Society of Clinical Pathologists will hold its 32nd annual meeting and 19th seminar at the Drake Hotel, Chicago, Oct. 13-16 under the presidency of Dr. Henry F. Hunt, Danville, Pa. The sessions will open Tuesday, 9 a. m., with a symposium on blood bank methodology under the joint sponsorship of the American Society of Clinical Pathologists and the College of American Pathologists. Dr. Donald H. Kaump, Detroit, will serve as moderator. The all day symposium will terminate with the presentation at 4:30 p. m. of "Indications and Contraindications for Whole Blood and Its Various Fractions" by the guest speaker, Dr. Israel Davidsohn, Chicago, immediate past president of the society. A reception and fellowship hour in the grand ballroom will precede the annual banquet, 7 p. m., in the Gold Coast room, which will be held jointly with the College of American Pathologists. The presidential address, "A Principle Worth Fighting for," will be delivered during the Wednesday morning session, immediately preceding a round-table luncheon in the Gold Coast room, sponsored jointly by the society and the college (admission by ticket only). Wednesday, 2 p. m., Dr. Edwin F. Hirsch, Chicago, will moderate a symposium on surgical pathology. On Thursday morning, by special invitation of the program committee, Dr. William F. Scherer and Dr. Jerome T. Syverton, Minneapolis, will present "The Use of Tissue Culture in the Propagation of Viruses," and Dr. Joseph F. McManus, Birmingham, Ala., will speak on practical connective tissue histochemical techniques. In the afternoon, by special invitation, Dr. Thomas H. McGavack and Sidney Pearson, New York, will discuss "The Chemical Determination of Urinary Steroids." Friday Dr. Lauren V. Ackerman, St. Louis, will be moderator for an all day seminar, "Diseases of the Skeleton, Including Neoplasms."

Prevalence of Poliomyelitis.—According to the National Office of Vital Statistics, the following number of reported cases of poliomyelitis occurred in the United States, its territories, and possessions in the weeks ended as indicated:

Area	Sept. 26, 1953 Paralytic Type	Sept. 26, 1953 Total Cases Reported	Sept. 27, 1952 Total
New England States			
Maine	9	18	11
New Hampshire	..	8	..
Vermont	4	9	1
Massachusetts	26	44	32
Rhode Island	15	28	13
Connecticut	6	20	18
Middle Atlantic States			
New York	59	250	159
New Jersey	25	43	63
Pennsylvania	..	90	105
East North Central States			
Ohio	30	175	243
Indiana	..	31	110
Illinois	39	119	328
Michigan	62	138	276
Wisconsin	..	69	180
West North Central States			
Minnesota	35	146	370
Iowa	6	20	213
Missouri	13	44	114
North Dakota	4	13	37
South Dakota	..	5	57
Nebraska	3	7	117
Kansas	4	24	124
South Atlantic States			
Delaware	2	2	6
Maryland	10	28	12
District of Columbia	2	2	7
Virginia	16	30	35
West Virginia	7	16	26
North Carolina	7	21	25
South Carolina	1	3	30
Georgia	7	15	15
Florida	5	25	33
East South Central States			
Kentucky	8	17	102
Tennessee	5	11	38
Alabama	8	10	6
Mississippi	3	7	24
West South Central States			
Arkansas	7	16	25
Louisiana	5	15	17
Oklahoma	3	9	50
Texas	16	37	87
Mountain States			
Montana	7	19	15
Idaho	..	7	14
Wyoming	..	2	6
Colorado	5	6	46
New Mexico	..	5	21
Arizona	8	18	16
Utah	..	3	26
Nevada	..	1	6
Pacific States			
Washington	..	20	77
Oregon	7	15	29
California	108	180	197
Territories and Possessions			
Alaska	1	2	..
Hawaii	1	2	..
Puerto Rico	..	2	..
Total	589	1,859	3,542

Formation of an American Association of Public Health Physicians.—On Nov. 29, 1951, several state and territorial health officers, while attending the annual meeting of the Association of State and Territorial Health Officers, met unofficially and discussed the need for an American Association of Public Health Physicians. A committee was appointed, and after several meetings with other groups it has scheduled a meeting of its own which is to be held at 8:30 p. m., Nov. 9 at the Hotel Statler, New York. The meeting will coincide with the meeting of the American Public Health Association, and all doctors of medicine engaged in full-time public health activities are invited to attend. A full and free discussion is desired to map plans for the formation of an American Association of Public Health Physicians, if such should be wanted. Such an association has been proposed with aims and objectives as follows:

1. To provide a greater degree of leadership at the national level on the part of all public health physicians in the field of public health in the interest of better health for the people of the United States and her territories.
2. To promote legislation and to influence public opinion at the national level in the presentation of the aims and objectives of departments of health at all levels of government.
3. To represent public health physicians at the national level in their relationships with other national associations and groups.
4. To work for improved practices in the field of public health administration from the viewpoint of the public health physician.
5. To serve as a liaison group between the American Medical Association and the American Public Health Association in an effort to bring both groups closer together in the public interest.
6. To be interested in and to promote the best interests of public health physicians.

The association would be interested primarily in carrying on business matters rather than in scientific programs. According to those interested in this new association the Section on Preventive and Industrial Medicine and Public Health of the American Medical Association and the American Public Health Association, as well as other national, state, and local scientific meetings, should be attended and supported by public health physicians. They believe they can strengthen these groups and that the latter are adequate to provide the scientific programs needed at the national level. The membership would be limited to those doctors of medicine who are engaged in full-time public health work in the United States or her territories. The usual officers would be provided for, including possibly a full or part-time lay executive secretary. The governing body would be a house of delegates, which would elect the officers and determine the broad policies of the association. A board of trustees would govern the association between meetings of the house of delegates. Major policy decisions would be made by referendums when desired or indicated. The annual meeting would consist principally of a meeting of the house of delegates, which might be held at the same time as the annual meeting of the American Public Health Association. The association would be supported by annual dues not to exceed $5, plus contributions from other associations, individual companies, and contributing sponsors. The active members of the association in any state or territory could organize local, affiliated branch organizations as desired. The active members of the association in each state and territory would be allowed to send delegates to the annual meeting of the house of delegates in proportion to the number of active members in each state and territory.

CANADA

Refresher Course for General Practitioners.—The Royal Victoria Hospital, Montreal, will conduct a course for general practitioners, Nov. 23-28, covering those conditions most commonly encountered in general practice, with emphasis on practical office procedures used in medicine, surgery, obstetrics and gynecology, and psychiatry. Fee for the course, which is limited to 50 applicants, is $50. For details address the Post-Graduate Board, Royal Victoria Hospital, 687 Pine Ave. West, Montreal.

CORRECTION

Treatment of Epilepsy.—Dr. Elinor R. Ives writes that in the article "Results of Intensive (Narcosis) and Standard Medical Treatment of Epilepsy," in The Journal, Aug. 8, 1953, in the columns in which figures are given from Dr. Ives' article on epilepsy, published in The Journal, Dec. 1, 1951, page 1332, the following errors occurred:

For phenobarbital, under grade 3 of improvement, the figure 19 should be added.

For diphenylhydantoin, the figure 20 under 0 improvement should be 22.

For Mesantoin, the figure 39 should be 10, the figure 12 should be 29, and the figure 20 should be 22.

For trimethadione, the figure 23 should be 29.

MEETINGS

AMERICAN MEDICAL ASSOCIATION: Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

1953 Clinical Meeting, St. Louis, Dec 1-4.

1954 Annual Meeting, San Francisco, June 21-25.

1954 Clinical Meeting, Miami, Florida, Nov. 30-Dec. 3.

1955 Annual Meeting, Atlantic City, N. J., June 6-10.

1955 Clinical Meeting, Boston, Nov. 29-Dec. 2.

American Academy for Cerebral Palsy, Western Hills Hotel, Fort Worth, Texas, Oct 30-31. Dr. Harry E. Barnett, 116 S. Michigan Blvd., Chicago 3, Secretary.

American Academy of Dermatology and Syphilology, Palmer House, Chicago, Dec. 5-10. Dr. John E. Rauschkolb, P. O. Box 6565, Cleveland 1, Secretary.

American Academy of Ophthalmology and Otolaryngology, Palmer House, Chicago, Oct. 12-16. Dr. W. L. Benedict, 100 First Avenue Bldg., Rochester, Minn., Executive Secretary.

American Academy of Tropical Medicine, Brown Hotel, Louisville, Ky., Nov. 12-14. Dr. E. Harold Hinman, University of Puerto Rico, School of Medicine, San Juan 22, P. R., Secretary.

American Association of Blood Banks, LaSalle Hotel, Chicago, Oct. 17-20. Miss Marjorie Saunders, 3500 Gaston Ave., Dallas 4, Texas, Secretary.

American Cancer Society, New York, Nov. 2-6. Dr. Charles S. Cameron, 47 Beaver St., New York 4, Medical Director.

American Clinical and Climatological Association, The Homestead, Hot Springs, Va., Nov. 2-4. Dr. Marshall N. Fulton, 124 Waterman St., Providence 6, R. I., Secretary.

American College of Cardiology, Hotel Statler, Cleveland, Ohio, Nov. 6-7. Dr. Philip Reichert, 480 Park Ave., New York 22, Secretary.

American Fracture Association, Mission Inn, Riverside, Calif., Oct. 12-15. Dr. H. W Wellmerling, 120 S. LaSalle St., Chicago 3, Secretary.

American Otorhinologic Society for Plastic Surgery, Morrison Hotel, Chicago, Oct. 11. Dr. Louis J. Feit, 66 Park Ave., New York, Secretary.

American Public Health Association, Hotel New Yorker and Hotel Statler, New York, Nov. 9-13. Dr. Reginald M. Atwater, 1790 Broadway, New York 19, Executive Secretary.

American School Health Association, Hotel New Yorker, New York, Nov. 9-13. Dr. A. O. DeWeese, 515 East Main St., Kent, Ohio, Secretary.

American Society of Clinical Pathologists, Drake Hotel, Chicago, Oct. 12-16. Dr. Clyde G. Culbertson, 1040 W. Michigan St., Indianapolis, Secretary.

American Society for the Study of Arteriosclerosis, Hotel Knickerbocker, Chicago, Nov. 1-2. Dr. O. J. Pollak, P. O. Box 228, Dover, Del., Secretary.

American Society of Tropical Medicine and Hygiene, Brown Hotel, Louisville, Ky., Nov. 12-14. Dr. John E. Larsh Jr., University of North Carolina, School of Public Health, Chapel Hill, N. C., Secretary.

Association of American Medical Colleges, Hotel Claridge, Atlantic City, N. J., Oct. 26-28. Dr. Dean F. Smiley, 185 N. Wabash Ave., Chicago 1, Secretary.

Association of Life Insurance Medical Directors of America, Hotel Statler, New York, Oct. 14-16. Dr. Henry B. Kirkland, P. O. Box 594, Newark 1, N. J., Secretary.

Association of Military Surgeons of the United States, Hotel Statler, Washington, D. C., Nov. 8-11. Dr. R. R. Sayers, Armed Forces Institute of Pathology, Washington 25, D. C., Secretary.

Association of State and Territorial Health Officers, Washington Hotel, Washington, D. C., Nov. 4-7. Dr. John D. Porterfield, 306 Ohio Depts. Bldg., Columbus 15, Ohio, Secretary.

Central Association of Obstetricians and Gynecologists, The Shamrock, Houston, Texas, Nov. 5-7. Dr. Harold L. Gainey, Suite 602, 116 South Michigan Ave., Chicago 3, Secretary.

Central Neuropsychiatric Association, Claypool Hotel, Indianapolis, Oct. 15-17. Dr. Hamilton Ford, 112 North Blvd., Galveston, Texas, Secretary.

Conference of Public Health Veterinarians, Hotel New Yorker, New York, Nov. 9. Dr. James Lieberman, U. S. Public Health Service, Washington 25, D. C., Secretary.

College of American Pathologists, Drake Hotel, Chicago, Oct. 12-16. Dr. Harry P. Smith, 203 N. Wabash Ave., Chicago 1, Secretary.

Congress of Neurological Surgeons, Roosevelt Hotel, New Orleans, Nov. 12-14. Dr. B. W. Cannon, 1092 Madison Ave., Memphis, Tenn., Secretary.

Constantinian Society, Battery Park Hotel, Asheville, N. C., Oct. 18-21. Dr. C. F. Shook, Medical Director, Owens-Illinois Glass Company, Toledo 1, Ohio, Secretary.

Delaware, Medical Society of, Hotel du Pont, Wilmington, Oct. 12-14 Dr. Andrew M. Gehret, 822 North American Bldg., Secretary.

Gulf Coast Clinical Society, Admiral Semmes Hotel, Mobile, Ala., Oct. 15-16. Dr. William J. Atkinson Jr., 1217 Government St., Mobile 20, Ala., Secretary.

Indiana State Medical Association, French Lick, Oct. 19-21. Mr. James A. Waggener, 23 E. Ohio St., Indianapolis 4, Executive Secretary.

Interstate Post Graduate Medical Association of North America, Palmer House, Chicago, Nov. 2-5. Dr. E. R. Schmidt, 1300 University Ave., Madison 5, Wisconsin, Secretary.

Inter-Society Cytology Council, Philadelphia, Nov. 19-20. Dr. Paul F. Fletcher, 634 North Grand Blvd., St. Louis 3, Secretary.

Midwestern Section of American Federation for Clinical Research, Congress Hotel, Chicago, Oct. 29. Dr. Robert J. Glaser, 600 S. Kingshighway Blvd., St. Louis 10, Secretary.

National Association for Mental Health, New York, Nov. 17-19. Dr. George S. Stevenson, 1790 Broadway, New York 19, Medical Director.

National Gastroenterological Association, Hotel Biltmore, Los Angeles, Oct. 12-17. Dr. A. Xerxes Rossien, 1819 Broadway, New York 23, Secretary.

National Proctologic Association, Congress Hotel, Chicago, Oct. 15-17. Dr. George E. Mueller, 59 East Madison St., Chicago 2, Secretary.

National Society for Crippled Children and Adults, Palmer House, Chicago, Nov. 12-14. Mr. Lawrence J. Linck, 11 South LaSalle St., Chicago 3, Secretary.

New England Obstetrical and Gynecological Society, Hotel Somerset, Boston, Oct. 28. Dr. Carmi R. Alden, 270 Commonwealth Ave., Boston, Secretary.

North Pacific Surgical Association, Victoria, B. C., Nov. 20-21. Dr. John A. Duncan, 509 Olive Way, Seattle, Secretary.

Oklahoma City Clinical Society, Oklahoma City, Oct. 26-29. Miss Alma F. O'Donnell, 512 Medical Arts Bldg., Oklahoma City 2, Executive Secretary.

Omaha Mid-West Clinical Society, Hotel Paxton, Omaha, Oct. 26-30. Miss Irene Rau, 1031 Medical Arts Bldg., Omaha 2, Executive Secretary.

Oregon State Medical Society, Heathman Hotel, Portland, Oct. 14-17. Dr. Charles E. Littlehales, 833 S.W. Eleventh Ave., Portland 5, Secretary.

Regional Meetings, American College of Physicians:

Michigan, H. H. Rackham Auditorium, Ann Arbor, Dec. 5. Dr. H. Marvin Pollard, 1313 East Ann St., Ann Arbor, Governor.

Midwest—Ill., Ind., Iowa, Minn., Wis.—Hotel Schroeder, Milwaukee, Nov. 21. Dr. Francis D. Murphy, 536 West Wisconsin Ave., Milwaukee 3, Chairman.

New England—Conn., Maine, Mass., N. H., R. I., Vt.—Hartford, Conn., Oct. 28. Dr. John C. Leonard, 80 Seymour St., Hartford 15, Conn., Chairman.

New Jersey, Trenton, Nov. 4. Dr. Edward C. Klein Jr., 73 Lincoln Park, Newark 2, Governor.

North Carolina, Chapel Hill, Dec. 3. Dr. Elbert L. Persons, Duke Hospital, Durham, Governor.

Southeastern—Cuba, Alabama, Florida, Georgia, South Carolina—St. Simons, Sea Island, Ga., Oct. 16-17. Dr. Carter Smith, 384 Peachtree St. N.E., Atlanta 3, Ga., Chairman.

Regional Meetings, American Rheumatism Association:

Ohio and Western Pennsylvania, Mayflower Hotel, Akron, Ohio, Nov. 11. Dr. Roger Q. Davis, 1405 Goodyear Blvd., Akron 5, Ohio, Chairman.

Southern Medical Association, Municipal Auditorium, Atlanta, Ga., Oct. 26-29. Mr. C. P. Loranz, 1020 Empire Bldg., Birmingham 3, Ala., Secretary.

Southwestern Medical Association, Pioneer Hotel, Tucson, Ariz., Oct. 29-31. Dr. C. C. Stapp, 800 Montana St., El Paso, Texas, Secretary.

Virginia, Medical Society of, Hotel Roanoke, Roanoke, Oct. 18-21. Mr. Robert I. Howard, 1105 W. Franklin St., Richmond 20, Executive Secretary.

Western Surgical Association, The Drake, Chicago, Dec. 3-5. Dr. Michael Mason, 154 East Erie St., Chicago 11, Secretary.

FOREIGN

Association of Surgeons of Great Britain and Ireland, Leeds, England, May 13-15, 1954. Dr. Henry W. S. Wright, 45 Lincoln's Inn Fields, London W.C.2, England, Honorary Secretary.

Canadian Medical Association, Vancouver, B. C., Canada, June 18-22, 1954. Dr. T. C. Routley, 135 St. Clair Ave. W., Toronto 5, Ont., Canada, General Secretary.

Congress of International Anesthesia Research Society, Chateau Frontenac, Quebec, Canada, October 26-29. Dr. A. William Friend, 515 Nome Ave., Akron 20, Ohio, Chairman, Program Committee.

International Cancer Congress, Sao Paulo, Brazil, July 23-29, 1954, Prof. A. Prudente, 171 rua Benjamin Constante, Sao Paulo, Brazil, President.

International Conference on Thrombosis and Embolism, Basle, Switzerland, July 15-19, 1954. Dr. W. Merz, Chief Medical Officer, Gynecological Clinic, University of Basle, Basle, Switzerland, Hon. Secretary.

International Congress on Group Psychotherapy, Toronto, Ont., Canada, Aug. 12-14, 1954. Dr. J. L. Moreno, Room 327, 101 Park Ave., New York 17, N. Y., U. S. A., Director of Organizing Committee.

International Congress of Hydroclimatism and Thalassotherapy, Dubrovnik, Yugoslavia, May 8-16, 1954. Prof. C. Plavsic, Zeleni Venac 1, Belgrade, Yugoslavia, Secretary General.

International Congress of International College of Surgeons, Sao Paulo, Brazil, April 26-May 2, 1954. Dr. Max Thorek, 1516 Lake Shore Drive, Chicago, Illinois, U. S. A., Secretary-General.

International Congress on Mental Health, University of Toronto, Toronto, Ontario, Canada, Aug. 14-21, 1954. For information write: Executive Officer, International Congress on Mental Health, 111 St. George St., Toronto, Ontario, Canada.

International Congress on Obstetrics and Gynecology, Geneva, Switzerland, July 26-31, 1954. Dr. H. de Watteville, Maternité Hôpital Cantonal, Geneva, Switzerland, President.

International Congress of Ophthalmology, Montreal, Canada, Sept. 10-11, 1954, and Waldorf-Astoria, New York, N. Y., U. S. A., Sept. 13-17, 1954. Dr. William L. Benedict, 100 First Avenue Building, Rochester, Minnesota, U. S. A., Secretary-General.

International Congress of Orthopedic Surgery and Traumatology, Berne, Switzerland, Aug. 30-Sept. 3, 1954. For information write: Professor M. Dubois, Isle-Hospital, Berne, Switzerland.

International Congress of Paediatrics, Havana, Cuba, Oct. 12-17. Prof. Felix Hurtado, 5a Avenue 124, Miramar, Havana, Cuba, President.

International Congress of Psychology, Montreal, Canada, June 7-12, 1954. For information write: Prof. H. S. Langfeld, International Union of Scientific Psychology, Eno Hall, Princeton University, Princeton, N. J., U. S. A.

International Congress for Psychotherapy, Zurich, Switzerland, July 21-24, 1954. Dr. H. K. Fierz, Theaterstrasse 12, Zurich 1, Switzerland, Secretary General.

International Gerontological Congress, London and Oxford, England, July 12-22, 1954. Prof. R. E. Tunbridge, General Infirmary, Department of Medicine, The University, Leeds, England, President.

International Office of Documentation of Military Medicine, Rome, Italy, Oct. 14-18. Colonel Medecin Prof. A. Campana, Office of the Ministero della Difesa-Esercito, Rome, Italy, Secretary.

International Poliomyelitis Congress, Rome, Italy, Sept. 6-10, 1954. For information write: Mr. S. Henwood, 120 Broadway, New York 5, N. Y., U. S. A.

International Society for Cell Biology, Leiden, Netherlands, Sept. 2-9, 1954. Professor Peter J. Gaillard, University of Leiden, Leiden, Netherlands, Secretary.

International Society of Geographical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Professor Fred C. Roulet, Hebelstrasse 24, Basle, Switzerland, Secretary-General.

Journees Medicales, Paris, France, April 21-25, 1954. For information write: Secretariat of the Journees, 12, rue Pierre-Geofroix, Colombes (Seine) France.

Latin American Congress of Obstetrics and Gynecology, Buenos Aires, Argentina, Oct. 26-31.

Latin American Congress of Otorhinolaryngology, Caracas, Venezuela, Feb. 21-25, 1954. Dr. Victorino Marquez Reveron, Centro, Medico, Caracas, Venezuela, Secretary-General.

Pacific Science Congress, Quezon City and Manila, Philippines, Nov. 16-28. Dr. Patrocinio Valenzuela, College of Pharmacy, University of the Philippines, Quezon City, Philippines, Secretary-General.

Pan American Congress of Otorhinolaryngology and Bronchoesophagology, Mexico, D.F., Mexico, Feb. 28-March 4, 1954. Dr. Pedro Hernandez Gonzalo, 8 No. 358, Vedado, Havana, Cuba, General Secretary.

Pan American Medical Association, International Medical Cruise Congress, S. S. Nieuw Amsterdam, Jan. 6-22, 1954. Dr. Joseph J. Eller, 745 Fifth Avenue, New York 22, N. Y., U. S. A., Executive Director.

Persian Gulf Medical Society, Dhahran, Saudi Arabia, Dec. 7-8. Dr. N. J. Conan Jr., Department of Internal Medicine, Arabian American Oil Company, Dhahran, Saudi Arabia, Secretary.

Regional Meeting, American College of Physicians, San Juan, Puerto Rico, Oct. 15-17. Dr. R. Rodriquez-Molina, Veterans Administration Center, San Juan, Puerto Rico, Governor.

Sectional Meeting, American College of Surgeons, London, England, May 17-19, 1954. Dr. Michael L. Mason, 40 East Erie St., Chicago 11, Ill., U. S. A., Secretary.

South American Congress of Angiology, Sao Paulo, Brazil, July 1954. For information write: Dr. Rubens Carlos Mayall, Rua Senador Vergueiro 73, Rio de Janeiro, Brazil, S. A.

World Congress of International Society for the Welfare of Cripples, The Hague, Netherlands, Sept. 13-17, 1954. For information write: D. C. Schaap, Centrale Vereniging, Apeldoorschweg 51, Arnhem, Netherlands.

World Federation of Occupational Therapists, Edinburgh, Scotland, August 17, 1954.

EXAMINATIONS AND LICENSURE

NATIONAL BOARD OF MEDICAL EXAMINERS

National Board of Medical Examiners: *Parts I and II.* All centers where there are five or more candidates. Sept. 8-10 (Part I only). Candidates may file applications at any time, but the National Board must receive them at least six weeks before the date of the examination they wish to take. Exec. Sec., Dr. John P. Hubbard, 133 South 36th St., Philadelphia 4.

EXAMINING BOARDS IN SPECIALTIES

American Board of Anesthesiology: *Written.* Various Centers, July 16, 1954. Sec., Dr. Curtiss B. Hickox, 80 Seymour St., Hartford 15.

American Board of Dermatology and Syphilology: All candidates must now pass a written examination. *Oral.* Philadelphia, Oct. 16-18. To be eligible, candidate must complete 36 months of training before Oct. 1. Final date for filing applications was May 1. Exec. Sec., Miss Janet Newkirk, 66 East 66th St., New York 21.

American Board of Internal Medicine: *Oral.* San Francisco, Sept. 30-Oct. 2, Chicago, Nov. 30-Dec. 2. The closing date for acceptance of applications for the San Francisco and Chicago oral examination was April 1. *Written.* October 19. The closing date for acceptance of applications was May 1. Exec. Sec.-Treas., Dr. William A. Werrell, 1 West Main St., Madison 3.

American Board of Neurological Surgery: *Oral.* New Haven, October. Final date for filing application was July 1. Sec., Dr. Leonard T. Furlow, Washington University School of Medicine, Kingshighway and Euclid Ave., St. Louis.

American Board of Neurology and Psychiatry: *Psychiatry and Neurology.* Dec. 14-15. Applications no longer being accepted. Chicago, April 29-30. Final date for filing application is Feb. 1. Sec., Dr. David A. Boyd, Jr., 102-110 Second Ave., S.W., Rochester, Minn.

American Board of Obstetrics and Gynecology: Written examination and review of case histories for all candidates will be held in various cities of the United States, Canada, and military centers outside the continental United States on Feb. 5. Case abstracts are to be sent by the candidate to the Secretary as soon as possible after receiving notification of eligibility to the Part I written examination. Application for reexamination in Part II must be made prior to Feb. 1 of any year. Sec., Dr. Robert L. Faulkner, 2105 Adelbert Road, Cleveland 6.

American Board of Ophthalmology: Chicago, Oct. 5-9. *Written.* Various Centers, January 1954. Final date for filing applications was July 1. Sec., Dr. Edwin B. Dunphy, 56 Ivie Road, Cape Cottage, Maine.

American Board of Orthopaedic Surgery: *Part II.* Chicago, Jan. 20-22. Final date for filing application was August 15. Final date for filing application for Part I is Nov. 30. Sec., Dr. Harold A. Sofield, 122 S. Michigan Ave., Chicago 3.

American Board of Otolaryngology: *Oral.* Chicago, Oct. 5-9. Sec., Dr. Dean M. Lierle, University Hospital, Iowa City.

American Board of Pathology: *Written. Pathologic Anatomy and Clinical Pathology.* Chicago, Oct. 8-10. Sec., Dr. William B. Wartman, 303 E. Chicago Ave., Chicago.

American Board of Pediatrics: *Oral.* Miami, Oct. 9-11; Indianapolis, Dec. 4-6. Exec. Sec., Dr. John McK. Mitchell, 6 Cushman Road, Rosemont, Pa.

American Board of Physical Medicine and Rehabilitation: *Oral and Written.* Washington, D. C., Sept. 5-6. Final date for filing application is March 31. Sec., Dr. Earl C. Elkins, 30 N. Michigan Ave., Chicago.

American Board of Plastic Surgery: *Entire Examination.* San Diego, Oct. 29-31. Final date for receipt of case reports was June 1. Corres. Sec., Mrs. Estelle E. Hillerich, 4647 Pershing Ave., St. Louis 8.

American Board of Proctology: *Part II. Oral and Written. Anorectal Surgery and Proctology.* Philadelphia, Sept. 19. Sec., Dr. Louis A. Buie, 102-110 Second Ave. S.W., Rochester, Minn.

American Board of Radiology: *Oral. Radiology, Roentgenology, Diagnostic Roentgenology and Therapeutic Radiology.* Chicago, Dec. 6-11. Final date for filing application was July 1. Sec., Dr. B. R. Kirklin, 102-110 Second Ave. S.W., Rochester, Minn.

American Board of Surgery: *Part I.* Oct. 28, 1953. March 31, 1954 and Oct. 27, 1954. *Part II.* New York City, Oct. 12-13; Chicago, Nov. 9-10; St. Louis, Dec. 14-15; Los Angeles, Jan. 11-12, 1954; Galveston, Jan. 15-16; Washington, Feb. 8-9; Cincinnati, March 8-9; New Orleans, April 12-13; Philadelphia, May 10-11; Boston, June 14-15. Sec., Dr. John B. Flick, 225 S. 15th St., Philadelphia 2.

Board of Thoracic Surgery: *Written.* Various centers throughout the country, September 11. Final date for filing application was July 1. Sec., Dr. William M. Tuttle, 1151 Taylor Ave., Detroit 2.

DEATHS

Birnie, John Mathews ⊕ Springfield, Mass.; born in 1878; Harvard Medical School, Boston, 1906; an Associate Fellow of the American Medical Association, serving as a member of the House of Delegates from 1927 to 1933 and from 1935 to 1942; past president and secretary of the New England Surgical Society; past president of the Massachusetts Medical Society and the Hampden County Medical Society; fellow of the American College of Surgeons; member of the founders group of the American Board of Surgery; formerly member of the board of registration in medicine; served overseas during World War I; visiting surgeon, Monson State Hospital in Palmer, and Springfield Hospital; consulting surgeon, Shriners' Hospital for Crippled Children, Wesson Memorial and Isolation Hospitals in Springfield, Noble Hospital in Westfield, Cyril and Julia C. Johnson Memorial Hospital in Stafford Springs, Conn., and Mary Lane Hospital in Ware; died in East Longmeadow Aug. 8, aged 74.

McNerney, Neville Hoodlet, East Cleveland, Ohio; born in 1889; Cleveland-Pulte Medical College, 1913; member of the Industrial Medical Association; veteran of World War I; served during World War II and received the Bronze Star; formerly practiced in Cleveland, where he was affiliated with St. Alexis and Huron Road hospitals; in 1946 was appointed medical director of the Veterans Administration branch office number 6, with headquarters in Columbus, and had jurisdiction of Veterans Administration activities in Ohio, Kentucky, and Michigan; died in Soldiers and Sailors Home in Sandusky Aug. 6, aged 63, of cerebral hemorrhage.

North, Emerson A. ⊕ Daytona Beach, Fla.; born in Patriot, Ind., Feb. 14, 1880; Medical College of Ohio, Cincinnati, 1906; professor emeritus of psychiatry at University of Cincinnati College of Medicine; specialist certified by the American Board of Psychiatry and Neurology; member of the American Psychiatric Association and the Central Neuropsychiatric Association; formerly practiced in Cincinnati, where he was superintendent of the Longview State Hospital, and on the staffs of the Cincinnati General, Children's, Jewish, and Christ hospitals; died Aug. 21, aged 73, of coronary occlusion with myocardial infarction.

Crandall, Frank Guilford Jr. ⊕ Los Angeles; born in Omaha July 7, 1896; University of Nebraska College of Medicine, Omaha, 1921; honorary fellow of the American College of Allergists; member of the American Academy of Allergy and the American Public Health Association; formerly secretary-treasurer of the Los Angeles Society of Allergy; served during World War II; author of "It's an Allergy"; attending physician, allergy service, Los Angeles County General Hospital; consulting allergist, Orthopaedic Hospital and Hollywood-Presbyterian Hospital, where he died Aug. 25, aged 57, of subarachnoid hemorrhage.

Mahoney, George W. ⊕ Wilmette, Ill.; born Dec. 31, 1860; Bellevue Hospital Medical College, New York, 1888; an Associate Fellow of the American Medical Association; specialist certified by the American Board of Ophthalmology; fellow of the American College of Surgeons; formerly associated with the U. S. Public Health Service; professor emeritus of ophthalmology at Loyola University School of Medicine in Chicago, where he was on the staffs of the St. Mary of Nazareth Hospital, Henrotin Hospital, and St. Vincent's Infant and Maternity Hospital; died in Glenview, June 11, aged 92, of coronary thrombosis.

Garland, Frederick Eugene ⊕ Boston; Harvard Medical School, Boston, 1902; formerly on the faculty of his alma mater; member of the American Academy of Ophthalmology and Otolaryngology and the New England Otolaryngological Society; specialist certified by the American Board of Otolaryngology; affiliated with Henry Heywood Memorial Hospital in Gardner, Children's Medical Center, Massachusetts Eye and Ear Infirmary, and the Massachusetts General Hospital; died in the Phillips House of Massachusetts General Hospital Aug. 3, aged 78.

Abbott, Henry Bacon ⊕ Geneva, N. Y.; University of Michigan Medical School, Ann Arbor, 1937; specialist certified by the American Board of Ophthalmology; member of the American Academy of Ophthalmology and Otolaryngology; fellow of the American College of Surgeons; past president of the Ontario County Medical Society; on the staff of the Geneva General Hospital; consultant in ophthalmology, Clifton Springs (N. Y.) Sanitarium and the Barber Hospital in Lyons; accidentally electrocuted while using a hand drill July 23, aged 39.

Allen, Myron Bartlett ⊕ Hoschton, Ga.; Emory University School of Medicine, 1918; member of the American Trudeau Society; died in Georgia Baptist Hospital, Atlanta, July 20, aged 58, of cirrhosis of the liver.

Alexander, Harry H. ⊕ Princeton, Ind.; Kentucky University Medical Department, Louisville, 1904; city health officer; on the staff of the Gibson General Hospital, where he died July 29, aged 74, of carcinoma of the prostate.

Altshuler, Abraham Magnus ⊕ Detroit; Universität Bern Medizinische Fakultät, Switzerland, 1917; county medical examiner; died Aug. 27, aged 62, of carcinoma of the pancreas.

Axe, Ross Harrison, Winfield, Kan.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1904; died in the William Newton Memorial Hospital Aug. 26, aged 73, of arteriosclerotic heart disease.

Bailey, Alfred S. ⊕ Chicago; Chicago College of Medicine and Surgery, 1915; served during World War I; vice-president of the staff of South Shore Hospital; died Aug. 27, aged 65, of arteriosclerotic heart disease.

Barham, Frank Forrest, Los Angeles; College of Physicians and Surgeons, Los Angeles, 1906; publisher of the *Los Angeles Evening Herald and Express* for many years; died Aug. 6, aged 74.

Barker, Pauline Quillin ⊕ Guthrie, Okla.; University of Oklahoma School of Medicine, Oklahoma City, 1912; died in the Benedictine Heights Hospital Aug. 21, aged 66, of encephalitis.

Bartol, Edward Francis Washburn ⊕ Lancaster, Mass.; Harvard Medical School, Boston, 1900; served during World War I; visiting physician at Lancaster Industrial School for Girls; at the time of his death, clerk of the corporation and member of the board of directors of the Clinton Savings Bank; on the staff of the Clinton Hospital, where he died Aug. 6, aged 78, of cancer.

Bates, Joseph Knox ⊕ Pittsburg, Texas; Memphis (Tenn.) Hospital Medical College, 1903; member of the American Academy of General Practice; city health officer; member of the city council; died May 8, aged 77, of coronary occlusion.

Blanchard, William, New York City; Columbia University College of Physicians and Surgeons, New York City, 1904; served during World War I; died in New Dorp, Staten Island, June 6, aged 71, of chronic myocarditis and arteriosclerosis.

Blevins, William Joseph ⊕ Woodland, Calif.; Barnes Medical College, St. Louis, 1898; died Aug. 20, aged 82.

Bobbitt, James Douglas ⊕ San Diego, Calif.; Rush Medical College, Chicago, 1911; served in the U. S. Navy from 1914 to 1923; died July 16, aged 68, of coronary thrombosis.

Bodkin, Dominic George ⊕ Brooklyn; Columbia University College of Physicians and Surgeons, New York, 1899; member of the founders group of the American Board of Surgery; served on the staffs of the Midwood Hospital and St. Catherine's Hospital, where he died Aug. 14, aged 76, of carcinoma of the esophagus.

⊕ *Indicates Member of the American Medical Association.*

Bozorth, Squire Smith ⊕ Eugene, Ore.; University of Oregon Medical School, Portland, 1925; specialist certified by the American Board of Otolaryngology; fellow of the American College of Surgeons; served during World War I; assistant university physician at the University of Oregon; formerly affiliated with the Doernbecher Memorial Hospital for Children, Multnomah Hospital, and Emanuel Hospital in Portland; died Aug. 12, aged 59 of nephritis.

Bradford, Edward B., St. Petersburg, Fla.; Detroit College of Medicine, 1896; died July 13, aged 88, of arteriosclerotic heart disease.

Brenner, Ivan Ernest ⊕ Winchester, Ind.; Indiana University School of Medicine, Indianapolis, 1913; fellow of the American College of Surgeons; formerly vice-president of the Randolph County Medical Society; on the staff of the Randolph County Hospital; died Aug. 3, aged 66, of uremia and malignant hypertension.

Briden, Vayle Spencer ⊕ Fresno, Calif.; State University of Iowa College of Medicine, Iowa City, 1936; member of the American Psychiatric Association; served during World War II; affiliated with Fresno Community Hospital, St. Agnes Hospital, Valley Children's Hospital and Guidance Clinic, and Veterans Administration Hospital; died July 24, aged 44, of carcinoma of the throat.

Bryant, Oliver Roy, Crosslake, Minn.; University of Minnesota College of Medicine and Surgery, Minneapolis, 1905; died in Veterans Administration Hospital, Fort Snelling May 18, aged 73.

Burke, Donald Vincent ⊕ Salinas, Calif.; Stanford University School of Medicine, San Francisco, 1924; died July 8, aged 57, of cirrhosis of the liver.

Burke, Thomas Jerome, Davenport, Iowa; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1899; died Aug. 3, aged 85, of arteriosclerosis.

Busicco, Philip Salvatore ⊕ Englewood, N. J.; University and Bellevue Hospital Medical College, New York, 1925; on the staff of the Englewood Hospital; died in Miami Beach, Fla., Aug. 18, aged 52, of intestinal hemorrhage and peptic ulcer.

Caldwell, James Clarence ⊕ Fulton, Mo.; University Medical College of Kansas City, 1912; served overseas during World War I; affiliated with the State Hospital, where he died July 31, aged 70, of chronic myocarditis.

Campbell, Edward Joseph ⊕ Cecil, Wis.; Milwaukee Medical College, 1911; served as city health officer of Oshkosh; affiliated with Shawano Municipal Hospital in Shawano, where he died June 2, aged 64, of heart failure.

Clark, Donald Victor ⊕ Detroit; University of Toronto Faculty of Medicine, Toronto, Canada, 1925; fellow of the International College of Surgeons; on the surgical staffs of Mount Carmel Mercy and Brent General hospitals; died Aug. 20, aged 50, of carcinoma.

Cochran, Harry Walton ⊕ Dallas, Texas; Johns Hopkins University School of Medicine, Baltimore, 1928; clinical professor of surgery at Southwestern Medical School of the University of Texas; specialist certified by the American Board of Surgery; past president, Dallas Southern Clinical Society; at one time on the faculty of Columbia University in New York and at Baylor University College of Medicine; affiliated with Baylor University and Parkland hospitals; died July 28, aged 49, of coronary occlusion.

Cooper, Howard Newton ⊕ Watertown, N. Y.; Cornell University Medical College, New York, 1920; fellow of the American College of Surgeons; affiliated with the House of the Good Samaritan and Mercy Hospital; died in Newboro, Ontario, Canada, July 22, aged 58, of a heart attack.

Cromeans, Randall Elias, Mexia, Texas; University of Tennessee College of Medicine, Memphis, 1915; health officer; died in July, aged 68, of a heart attack.

Davies, Frederic Bard ⊕ Scranton, Pa.; University of Rochester School of Medicine and Dentistry, Rochester, N. Y., 1931; past president of the Lackawanna County Medical Society and the Lackawanna County Heart Association; served during World War II; affiliated with Scranton State Hospital, West Side Hospital, and the Hahnemann Hospital; formerly editor of *The Reporter,* official organ of the Lackawanna County Medical Society; died in Moses Taylor Hospital July 18, aged 48, of a brain tumor.

Doak, Nathaniel Parillus ⊕ Houston, Texas; Baylor University College of Medicine, Dallas, 1928; member of the Society of Life Insurance Medical Directors of Texas and the Association of Life Insurance Medical Directors of America; medical director of the Great Southern Life Insurance Company; died April 20, aged 52, of carcinoma of the liver.

Donahue, James Joseph ⊕ East St. Louis, Ill.; Washington University School of Medicine, St. Louis, 1925; specialist certified by the American Board of Pediatrics; member of the American Academy of Pediatrics; formerly supervisor of medical and health service in the public schools of East St. Louis; affiliated with St. Mary's and Christian Welfare hospitals; died Aug. 10, aged 56, of coronary thrombosis.

Duffy, Edward Anthony, Detroit; Tufts College Medical School, Boston, 1917; affiliated with Providence Hospital, where he died Aug. 15, aged 62, of coronary occlusion.

Dunn, A. Henry, San Bernardino, Calif.; Medico-Chirurgical College of Philadelphia, 1906; for many years practiced in Columbus, Ohio; served during World War I; died in Los Angeles Aug. 4, aged 70, of coronary occlusion.

Epler, Blanch Nettleton, Jacksonville, Ill.; Johns Hopkins University School of Medicine, Baltimore, 1899; died in Our Saviour's Hospital Aug. 2, aged 88, of chronic pneumonitis.

Erdmann, Adolph Frederick, Laconia, N. H.; Long Island College Hospital, Brooklyn, 1897; member of the American Society of Anesthesiologists; until his retirement in 1936 practiced in Brooklyn, where he was affiliated with Brooklyn Eye and Ear Hospital and the Norwegian Lutheran Deaconesses' Home and Hospital; died Aug. 16, aged 85, of arteriosclerosis.

Evans, Joseph Patton ⊕ Gulfport, Miss.; Washington University School of Medicine, St. Louis, 1921; served during World War I; formerly major league baseball player; affiliated with Gulfport Memorial Hospital; died Aug. 8, aged 58, of carcinoma of the esophagus.

Fordyce, Claude Powell ⊕ St. Joseph, Mo.; Washington University School of Medicine, St. Louis, 1910; affiliated with St. Joseph's Hospital and the Missouri Methodist Hospital, where he died Aug. 18, aged 70, of acute anterior myocardial infarction.

Friedman, Paul Norman ⊕ Baltimore; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1943; specialist certified by the American Board of Ophthalmology; served on the faculty of his alma mater; affiliated with Baltimore Eye, Ear and Throat Hospital; died July 5, aged 33, of ulcerative colitis.

Frisbey, William Redmond ⊕ Delia, Kan.; Kansas Medical College, Medical Department of Washburn College, Topeka, 1903; also a pharmacist; served on the city council and as mayor; died in Des Moines, Iowa, Aug. 11, aged 80, of uremia.

Gaikins, George Aluin, St. Louis; Howard University College of Medicine, Washington, D. C., 1921; affiliated with People's Hospital and Homer G. Phillips Hospital, where he died Aug. 14, aged 61, of coronary thrombosis.

Gay, Nathaniel Scales ⊕ Whistler, Ala.; Medical College of Alabama, Mobile, 1900; also a pharmacist; died Aug. 24, aged 76.

Gehring, Edwin Wagner, Portland, Maine; Medical School of Maine, Portland, 1904; specialist certified by the American Board of Internal Medicine; fellow and formerly member of the board of governors of the American College of Physicians; past president of the Maine Medical Association and Cumberland County Medical Society; at one time chief of the medical service of the Maine General Hospital; served as editor-in-chief of the *Maine Medical Journal;* died Aug. 8, aged 77, of rheumatic heart disease and aortic stenosis.

Ginder, Floyd Edwin ⊕ Columbus, Ohio; Starling Medical College, Columbus, 1904; served during World War I; affiliated with White Cross, Grant, and Mercy hospitals; died Aug. 18, aged 71, of coronary occlusion.

Griffin, James Olin ⊕ Oakville, Tenn.; Medical College of Alabama, Mobile, 1900; member of the American Trudeau Society; served during World War I; at one time health officer of Tallapoosa County, Ala., and president of the board of education of Hackneyville, Ala.; affiliated with Oakville Memorial Sanatorium; died in Baptist Memorial Hospital, Memphis, July 31, aged 82, of acute pancreatitis.

Grone, Robert Yocum ⊕ Danville, Pa.; Jefferson Medical College of Philadelphia, 1926; fellow of the American College of Surgeons; past president of the Montour County Medical Society; served during World War I; member of the board of trustees of the Danville State Hospital; formerly chief surgeon at Shamokin (Pa.) State Hospital; affiliated with Bloomsburg (Pa.) Hospital and Berwick (Pa.) Hospital; on the staff of the Geisinger Memorial Hospital, where he died July 28, aged 53, of coronary occlusion.

Harris, Frederick William ⊕ Little Rock, Ark.; University of Arkansas School of Medicine, Little Rock, 1929; specialist certified by the American Board of Internal Medicine; fellow of the American College of Physicians; member of the American Heart Association; past president of the Arkansas Heart Association; associate clinical professor of medicine at his alma mater; affiliated with Arkansas Baptist Hospital and St. Vincent Infirmary; consultant cardiologist for St. Anthony's Hospital in Morrilton; died Aug. 16, aged 55.

Hoag, R. B., Lakeland, Fla.; Michigan College of Medicine and Surgery, Detroit, 1905; died July 3, aged 85, of uremia.

Jones, Everett Orville ⊕ Seattle; University of Pennsylvania School of Medicine, Philadelphia, 1893; an Associate Fellow of the American Medical Association; member of the North Pacific Surgical Association; fellow of the American College of Surgeons; affiliated with Providence and Swedish hospitals; died in Saratoga, Calif., Aug. 5, aged 81, of carcinoma of the prostate.

Kaveney, Joseph James ⊕ Captain, U. S. Navy, retired, Washington, D. C.; Georgetown University School of Medicine, Washington, D. C., 1904; entered the U. S. Navy April 23, 1921, and retired Jan. 1, 1943; died Aug. 25, aged 73, of coronary occlusion.

Keskey, George Isaac ⊕ Marquette, Mich.; University of Michigan Medical School, Ann Arbor, 1922; member of the American Academy of Ophthalmology and Otolaryngology; fellow of the American College of Surgeons; specialist certified by the American Board of Otolaryngology; on the staff of St. Mary's and St. Luke's hospitals; died Aug. 14, aged 56, of coronary thrombosis.

Klapproth, Herman ⊕ Sherman, Texas; University of Texas School of Medicine, Galveston, 1929; specialist certified by the American Board of Radiology; member of the American College of Radiology; past president of the Texas Radiological Society; in 1947 president of the Grayson County Medical Society; affiliated with St. Vincent's and Wilson N. Jones hospitals; died in Midland April 3, aged 49, of a heart attack.

Kleinman, Maurice ⊕ Newark, N. J.; University and Bellevue Hospital Medical College, New York, 1927; served during World War II; civilian ophthalmologist at the Newark Armed Forces Induction Station, 1942-1943, for which he received a commendation certificate; served in the prevention department with the mobile eye clinic of the New Jersey Commission for the Blind; died Sept. 1, aged 52, as the result of a fall.

Knox, John ⊕ Lumberton, N. C.; University of Maryland School of Medicine, Baltimore, 1906; past president of the Robeson County Medical Society; died June 25, aged 70, of acute coronary thrombosis.

Lomax, Claude Carl ⊕ Costa Mesa, Calif.; Louisville and Hospital Medical College, Louisville, Ky., 1908; member of the Indiana State Medical Association; for two terms health officer of Spencer County, Ind.; died July 14, aged 69, of cardiovascular renal disease.

London, Stephen ⊕ New York City; Friedrich-Wilhelms-Universität Medizinische Fakultät, Berlin, Prussia, Germany, 1913; assistant clinical professor of medicine, New York Medical College, Flower and Fifth Avenue Hospitals; on the staff of the New York Polyclinic Medical School and Hospital; died Aug. 23, aged 67, of coronary thrombosis.

Long, Samuel Calvin, Bakersfield, Calif.; Hahnemann Hospital College of San Francisco, 1901; served as examiner of the state lunacy commission for Kern County, school physician, and county health officer; died Aug. 19, aged 83.

Love, George Robert ⊕ Oconomowoc, Wis.; the Hahnemann Medical College and Hospital, Chicago, 1922; first president of the Wisconsin State Medical Golfers' Association; medical director of the Summit Hospital, where he died May 26, aged 55, of acute myocardial failure.

McGinley, Charles ⊕ Lynn, Mass.; Baltimore Medical College, 1904; affiliated with Lynn Hospital and Union Hospital; died July 29, aged 74, of cancer.

McKee, Robert Morrow ⊕ Beaver, Pa.; University of Pittsburgh School of Medicine, 1941; specialist certified by the American Board of Dermatology and Syphilology; served during World War II; instructor in dermatology at his alma mater; on the staffs of the Providence Hospital in Beaver Falls, Beaver Valley General Hospital in New Brighton, and Rochester (Pa.) General Hospital, where he died July 28, aged 38.

Masilko, Vandy Frank ⊕ Chicago; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1900; an Associate Fellow of the American Medical Association; served on the staff of St. Anthony de Padua Hospital; died in River Forest, Ill., Aug. 21, aged 86, of cardiac decompensation.

Miley, Levi Emerson, Grand Rapids, Mich.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1881; practiced in Chicago for many years; died in the Blodgett Memorial Hospital July 17, aged 101 of chronic prostatism with hemorrhage.

Morley, Grace Clark ⊕ Hoboken, N. J.; New York Medical College and Hospital for Women, Homeopathic, New York, 1914; died July 13, aged 67, of carcinoma of the liver.

Myers, George Thomas ⊕ Norfolk, Va.; Medical College of Virginia, Richmond, 1901; for many years city physician; an honorary member of the visiting staff of Norfolk General Hospital; died July 8, aged 75.

Nalley, Thomas J., Ontario, Calif.; Washington University School of Medicine, St. Louis, 1905; surgeon at the U. S. Army Quartermaster Depot at Mira Loma for many years; died Aug. 2, aged 73, of coronary thrombosis.

Novak, Anna F., Chicago; Bennett Medical College, Chicago, 1895; served on the staff of Women and Children's Hospital; died Aug. 31, aged 89, of cerebral hemorrhage and arteriosclerosis.

Peters, Erwin Emanuel ⊕ Monroe, Wis.; Cornell University Medical College, New York, 1936; specialist certified by the American Board of Internal Medicine; served during World War II; associate preceptor, University of Wisconsin, Madison; at one time on the faculty of his alma mater; died July 6, aged 42, of cerebral vascular accident.

Pitts, Howard, Chicago; Bennett Medical College, Chicago, 1911; died in St. Joseph (Mich.) Memorial Hospital Aug. 13, aged 72, of adenocarcinoma of the prostate with metastases.

Range, William Edgar, Caseyville, Ill.; Barnes Medical College, St. Louis, 1901; health officer; also a graduate pharmacist; affiliated with St. Mary's Hospital in East St. Louis, where he died Aug. 14, aged 80, of arteriosclerotic heart disease.

Roberts, Aaron Lamar ⊕ Fort Worth, Texas; University of Texas School of Medicine, Galveston, 1916; specialist certified by the American Board of Radiology; member of the Radiological Society of North America; past president of the Thirteenth District Medical Society; served overseas during World War I; affiliated with City-County Hospital; died April 8, aged 65, of cerebrovascular accident.

Roberts, John Nunnally ⊕ Little Rock, Ark.; University of Arkansas School of Medicine, Little Rock, 1934; assistant clinical professor of surgery (urology) at his alma mater; served during World War II; formerly deputy county coroner; affiliated with St. Vincent Infirmary, and Arkansas Baptist, Missouri Pacific, and Veterans Administration hospitals; died Aug. 15, aged 42, of coronary thrombosis.

Robertson, Moorman Owen ⊕ Bedford, Ind.; University of Louisville (Ky.) School of Medicine, 1911; at one time medical missionary in Korea; affiliated with Dunn Memorial Hospital, where he died Aug. 18, aged 66, of injuries received in an automobile accident.

Rossiter, Thomas Jerome ⊕ Washington, D. C.; National University Medical Department, Washington, 1902; died Sept. 2, aged 81.

Sears, Frederick Manning, West Dennis, Mass.; Boston University School of Medicine, 1901; died June 20, aged 76, of coronary thrombosis.

Seitz, Sherwood Bretz ⊕ Barnesville, Minn.; Northwestern University Medical School, Chicago, 1936; certified by the National Board of Medical Examiners; served during World War I; affiliated with St. Ansgar's Hospital in Moorhead; died Aug. 4, aged 53, of coronary occlusion.

Shaham, Simon ⊕ Philadelphia; Jefferson Medical College of Philadelphia, 1901; affiliated with Mount Sinai Hospital (Albert Einstein Medical Center-Southern Division); died Aug. 2, aged 77, of acute pulmonary edema.

Shapiro, Lawrence Milton ⊕ New York City; University and Bellevue Hospital Medical College, New York, 1933; specialist certified by the American Board of Pediatrics; fellow of the American Academy of Pediatrics; in 1935 appointed on the medical board of the board of education; affiliated with Bellevue and Beth Israel hospitals; died Aug. 27, aged 45, of coronary sclerosis.

Smith, Henry Greene ⊕ Essex Fells, N. J.; Chattanooga (Tenn.) Medical College, 1909; specialist certified by the American Board of Psychiatry and Neurology; member of the American Psychiatric Association; served overseas during World War I; for many years affiliated with Essex County Overbrook Hospital in Cedar Grove; died Aug. 3, aged 64, of myocardial failure.

Capt. Joseph J. Engelbreit, M.C., U.S.A.F. (Reserve), 1928-1953

Snow, Frank Simeon, Palatine Bridge, N. Y.; Albany (N. Y.) Medical College, 1889; died June 16, aged 86, of coronary heart disease.

Stone, Gordon ⊕ Cleveland; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1921; died in the City Hospital Aug. 15, aged 55, of coronary thrombosis.

Suer, Robert Eugene ⊕ Wilmington, Ohio; Indiana University School of Medicine, Indianapolis, 1948; served during World War II; county coroner; died Aug. 13, aged 28.

Sullivan, Lawrence Francis ⊕ Donahue, Iowa; State University of Iowa College of Medicine, Iowa City, 1904; died Aug. 10, aged 73, of cerebral arteriosclerosis and coronary artery disease.

Talge, Edward George ⊕ Evanston, Ill.; Northwestern University Medical School, Chicago, 1925; member of the American College of Allergists; formerly on the faculty of his alma mater; past president of the Evanston Branch of the Chicago Medical Society; served as secretary-treasurer and president of the Chicago Society of Allergy; affiliated with St. Francis Hospital and Evanston Hospital, where he died Sept. 7, aged 53, of coronary disease.

Twyeffort, Louis Hollenback ⊕ Bryn Mawr, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1934; specialist certified by the American Board of Psychiatry and Neurology; served on the faculty of his alma mater; member of the American Psychosomatic Society and the American Psychiatric Association; affiliated with the Institute of Pennsylvania Hospital; died in Bedford Village, N. Y., July 30, aged 51.

von Buddenbrock, Erick ⊕ Racine, Wis.; University of Pennsylvania Department of Medicine, Philadelphia, 1905; fellow of the American College of Surgeons; past president of the Racine County Medical Society; affiliated with St. Luke's and St. Mary's hospitals; died May 25, aged 71, of coronary thrombosis.

Walton, Gordon Graham ⊕ Paterson, N. J.; University and Bellevue Hospital Medical College, New York, 1904; for many years assistant city physician; served as health officer of the borough of West Paterson; formerly county coroner; served on the staff of the Paterson General Hospital, where he died Aug. 4, aged 74, of congestive heart failure and arteriosclerotic heart disease.

Weiss, Charles ⊕ Miami Beach, Fla.; University and Bellevue Hospital Medical College, New York, 1915; member of the Medical Society of the State of New York; died July 26, aged 62.

Wellman, Orand Forrest ⊕ San Pedro, Calif.; College of Physicians and Surgeons of San Francisco, 1922; served during World War I; affiliated with San Pedro Community Hospital, where he died Aug. 5, aged 63, of carcinoma of the pancreas.

West, Harmon ⊕ Norwood, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1915; affiliated with Taylor Hospital in Ridley Park, where he died Aug. 17, aged 67, of meningitis and brain abscess.

Wilking, Spies Valentine ⊕ Butte, Mont.; Starling Medical College, Columbus, Ohio, 1898; member of the American Academy of General Practice; for many years secretary of the Silver Bow County Medical Society; died in St. Joseph's Hospital, Burbank, Calif., Aug. 10, aged 79, of intra-abdominal malignancy with metastases.

Wilkins, Howard Francis, Indio, Calif.; University of Southern California School of Medicine, Los Angeles, 1941; at one time on the faculty of his alma mater; owner of the Coachella Valley Hospital; died Aug. 6, aged 37, of acute coronary disease.

Willey, Perry Woodruff ⊕ Columbus, Ohio; Starling Medical College, Columbus, 1897; served on the staff of the White Cross Hospital; died Aug. 13, aged 80, of acute myocardial infarction.

KILLED IN ACTION

Engelbreit, Joseph James ⊕ University City, Mo.; St. Louis University School of Medicine, 1951; interned at St. Louis City Hospital; entered the Medical Corps, U. S. Air Force Reserve, in July, 1951, as first lieutenant; captain; flight surgeon on a bombing mission; killed in an airplane crash in Korea May 21, aged 25.

GOVERNMENT SERVICES

ARMY

Hospital News.—At the Brooke Army Hospital, Fort Sam Houston, Texas, on Sept. 16, medical officers and guests presented a symposium on cardiac arrest. The program, moderated by Col. Warner F. Bowers, chief of the surgical service, began with a statement of the problem by the chief of the cardiology section, Lieut. Col. Weldon J. Walker. Capt. Benton D. King, assistant chief of the anesthesia section, discussed the diagnosis and causative factors. The duties of the anesthesia and the surgical teams were discussed by Col. James G. Inman, chief of the anesthesia section, and Capt. Clinton A. Piper of the surgical service. A motion picture on cardiac resuscitation was presented by 1st Lieut. John G. Kralik. A demonstration of resuscitation equipment completed the program. Staff members of the medical center and interested civilian professional personnel were invited to attend the meeting.

PUBLIC HEALTH SERVICE

Appointments to Councils.—Mrs. Edward Curry, Topeka, Kan., and Mr. Louis E. Leverone, Chicago, have been appointed to serve on the National Advisory Heart Council, Surgeon General Scheele has announced. Mrs. Curry is president of the Kansas Council of Women and has served in various capacities with the American Association of University Women. Mr. Leverone, a leader in the development of business aviation, is the author of articles on vocational training, president of the Automatic Canteen Company of America, a past president of the Dartmouth College Alumni Council, a member of the Union League Foundation for Boys' Clubs, and a sponsor for the American Bible Society.

Members of the National Advisory Heart Council advise and make recommendations to the Surgeon General on programs of the National Heart Institute, established by congress through the National Heart Act in 1948. This is one of the seven National Institutes of Health at Bethesda, Md., main research arm of the Public Health Service. The council has 15 members composed of leaders in medicine, science, education, and public affairs. In addition to the appointed members of the National Advisory Heart Council, there are three ex officio members representing the Public Health Service, Veterans Administration, and Department of Defense. The council meets three times a year at the National Institutes of Health, Bethesda, Md., with its next meeting scheduled for Nov. 19-21, 1953.

Dr. Sidney Farber, scientific director of the Children's Cancer Research Foundation in Boston and professor of pathology at Harvard University Medical School, has been appointed to serve on the National Advisory Cancer Council. Dr. Farber is best known for his research on the chemotherapy of cancer, particularly leukemia, in children. With his associates at the Children's Medical Center, he conducts a diagnostic service for the benefit of general practitioners throughout the country who may obtain advice on individual cases. This service is made possible by funds from the Children's Cancer Research Foundation, founded by the Variety Club of New England in 1948 and later given financial support by the Boston Braves baseball team, the motion picture industry, and the Jimmy Fund. The chemotherapy clinic is housed in a new children's cancer research building constructed with these funds and equipped with the aid of a grant from the National Cancer Institute.

Lecture by Dr. Cori.—Dr. Carl F. Cori, professor of biological chemistry, School of Medicine of Washington University, St. Louis, Mo., presented the sixth of the 1953 guest lectures at the National Institutes of Health, Washington, D. C., Sept. 24. His address was "Enzymatic Analysis of the Structure of Starch and Glycogen." An authority on enzyme chemistry and carbohydrate metabolism, Dr. Cori is the recipient of the Lasker award, the Sugar Research Foundation award, and, jointly with his wife, the Squibb award and the 1947 Nobel prize in medicine and physiology.

The National Institutes of Health annual lecture series was established to facilitate interchange of information and to give appropriate recognition for outstanding scientific accomplishment. Each of the seven research institutes sponsors a lecture, with the eighth sponsored by the office of the director. This series will be repeated yearly, and the lectures will be published and distributed to various scientific centers.

VETERANS ADMINISTRATION

Psychiatric Residency Training Program.—The Cleveland Veterans Administration Hospital is accepting applications for their psychiatry residency program. It is approved for a three year residency in psychiatry. All psychiatric teaching and practice are psychoanalytically oriented under the supervision and direction of the psychiatry department of the Western Reserve University School of Medicine.

Opportunity for personal analysis and psychoanalytic training are available for qualified residents. Arrangements can be made to accept residents for one, two, or three years. Salary ranges are from $2,640 to $3,300 per year. The training benefits of Public Law 550 (Korean G.I. bill) may be obtained in addition to the residency salary. Applications may be obtained from Leon Ross, M.D., Chief, Professional Services, V. A. Hospital, Cleveland 29, Ohio; or Douglas D. Bond, M.D., Chairman of the Dean's Subcommittee for Psychiatry, University Hospitals, Cleveland 6, Ohio.

MISCELLANEOUS

Graduate Science Fellowships Offered.—More than 700 students with special abilities in science will be selected for a year of graduate study during the academic year 1954-1955 in the National Science Foundation's third annual graduate fellowship program. The closing dates for receipt of applications are Dec. 15, 1953, for postdoctoral applicants and Jan. 4, 1954, for graduate students working toward advanced degrees in science. National Science Foundation fellowships are awarded to American citizens who will begin or continue their studies at the graduate level in the mathematical, physical, biological, medical, and engineering sciences during the 1954-1955 academic year. Selections will be made solely on the basis of ability. The majority of the fellowships will go to graduate students seeking master's or doctor's degrees in science, although a limited number of awards will be made to postdoctoral applicants. Graduating college seniors in the sciences who desire to enter graduate school are encouraged to apply for the awards. Postdoctoral applicants will not be required to take the examinations. Applicants will be rated by special fellowship boards established by the National Academy of Sciences. Final selection will be made by the National Science Foundation.

Stipends for graduate fellowships will vary. First year fellows, students entering graduate school for the first time or those who have had less than one year of graduate study, will receive annual stipends of $1,400. Fellows who need one final academic year of training for the doctor's degree will receive annual stipends of $1,800. Fellows between these groups will receive stipends at the rate of $1,600 annually. The stipends for postdoctoral fellows will be $3,400 per year. Dependency allowances will be made to all married fellows. Tuition and laboratory fees and limited travel allowances will also be provided. National Science Foundation graduate fellows may attend any accredited nonprofit institution of higher education in the United States or similar institutions abroad. Applications may be obtained from the Fellowship Office, National Research Council, Washington 25, D. C.

FOREIGN LETTERS

DENMARK

Operative Treatment of Bronchogenic Lung Cancer.—In the thoracic surgery department of the Øresund Hospital in Copenhagen important advances have been made since 1944 in the treatment of cancer of the lung, more and more cases of which are being treated in this municipal chest hospital. In 1945 approximately 35% of all such cases in men in Copenhagen were dealt with in this hospital, whereas in 1950 this figure had risen to approximately 65%. Operable cancers particularly are being treated more frequently in this hospital, where facilities are provided for ambulant examination as well as inpatient treatment. Two members of its staff, Dr. Jens L. Hansen and Dr. Tage Kjaer, have lately undertaken an analysis (*Ugeskrift for Laeger* for May 28, 1953) of 638 consecutive cases of primary bronchogenic cancer in which the patients were discharged from the hospital or died between Jan. 1, 1944, and June 30, 1952. In the period 1944-1946 only 8.1% of all the patients were discharged after a successful primary lung resection. In the period 1951-1952 this figure was quintupled (41.6%). At first only about three such cases yearly were seen, whereas now some 50 such cases are seen each year. In the period 1944-1946, approximately one-third of all the patients were operated on, but less than 25% of the operations were successful resections. Most of the operations were exploratory or resulted fatally. Two-thirds of the patients already had inoperable cancers, usually because of metastases. Towards the end of the period under review, fully 70% of the patients could be operated on. In the period 1944-1946, two of every three operations were exploratory thoracotomies, whereas only one of every five operations is at present.

Dr. Hansen and Dr. Kjaer are greatly impressed by the value of frozen section microscopy during the operation itself as a means of determining the extent of the disease and limiting a resection to the necessary minimum. This test has now been adopted as a matter of routine and has been found to be so reliable that it is difficult to understand how it could have been dispensed with in earlier years. It is valuable in distinguishing healthy and diseased areas of the lungs, and this cannot always be achieved by any macroscopic examination. As Dr. Hansen and Dr. Kjaer remark, "In reality it is our pathologists who now decide the extent to which operations are to be carried out for lung cancer, and this is so also to a certain extent with tuberculosis and other diseases of the lungs." It is particularly the elderly patient with emphysema and a weak heart who benefits from the means of reducing the extent of a lung operation to the minimum.

Montebello Sanatorium for Neuroses.—In 1950 the Montebello estate was purchased for one million kroner by a group representing Greater Copenhagen and the province of Frederiksberg. Another million kroner was spent on equipment and the provision of beds for 100 patients. In the following year Montebello was formally opened as a sanatorium for treatment of neuroses, and in 1953 the number of beds was raised from 100 to 128. In certain respects Montebello holds a unique position in Denmark. There are, to be sure, other Danish sanatoriums that undertake the treatment of neuroses as distinct from psychoses, but these sanatoriums are linked up with asylums for treatment of psychoses and thus come to acquire an asylum flavor. Montebello, on the other hand, has no such link with any asylum, a fact to which its medical superintendent, Dr. Torsten Østergaard, attaches much importance. His patients are carefully screened in some other hospital before they are put on the Montebello waiting list. Psychoses, however slight, are a contraindication for admission, but the distinction between a psychosis and a neurosis is at times difficult, and it is inevitable that psychotics are occasionally admitted to Montebello. Psychopaths and drug addicts are not admitted, and patients with long-standing neuroses that have not been benefited by hospital treatment are also not eligible for admission. The ideal patient for admission is the patient with neurosis of comparatively recent onset that is uncomplicated by mental deficiency or hysteria. Considering that the criteria for admission are so rigid, it is remarkable that Montebello's waiting list is so long, many patients having to wait for several months.

A member of the Montebello staff, Dr. Gunnar Belling, has recently issued a report on 549 patients admitted to Montebello since April 1, 1951, and has shown what can be achieved by the many measures now available for the treatment of neuroses in a hospital. These measures include narcoanalysis and shock treatment, which are given only on the consent of the patient informed of their nature. Promising results have lately been achieved with modern group psychotherapy. Older and more conventional measures such as baths, massage, and gymnastics are also used. The use of drugs is somewhat limited, and as a rule the patient is encouraged to dispense with all drugs towards the end of his stay in the sanatorium. Discussions between patient and physician are encouraged, and a prominent feature of treatment is the aid given by social workers.

Measles in Greenland.—Recent reports in the Danish medical press of an outbreak of measles in 1951 in Greenland show how remarkably different is the behavior of this disease in Denmark itself and in Greenland. The disease is endemic in Denmark, where important outbreaks occur at intervals of only a few years. During the last 30 years some 20,000 to 70,000 cases have been reported yearly, with a mortality rate of about 0.1% during the last 10 years. Deaths from measles in Denmark are always due to secondary infection such as pneumonia. In Denmark measles is very rare in the first six months of life and is almost unknown in the first four months, presumably because of passive immunization by the mother.

The 1951 outbreak of measles in Greenland occurred in two main waves during which only 5 of 4,262 persons exposed failed to contract the disease. Among the very young babies who had measles, three were only a fortnight old. They had evidently been infected by their mothers who had been unable to give them the protection of passive immunization. In most cases the incubation period conformed to the conventional 13 to 14 days, but there were several cases with a much shorter incubation period of from 7 to 9 days. There were 77 deaths among more than 4,000 patients (a mortality of 1.8%) and as many as 25 of these deaths occurred in the prodromal stage of the disease, before the appearance of a rash. Such a sequence of events is almost unknown in Denmark.

Prophylactic treatment with the serum of convalescents and with gamma globulin may well have been beneficial, for the complication rate was only 28.4% as compared with 45.7% for the patients not thus treated. The mortality was, however, higher among the former, presumably because prophylactic treatment was reserved for children under 2 years, pregnant women, tuberculous patients, and persons not in good health. One complication, which is rare in Denmark, was edema of the lungs due to cardiac insufficiency. More than half of the 25 Greenlanders with this complication died of it. As was to be expected, the measles led to the outbreak of tuberculosis in many cases, and in a community of 363 persons who had been medically examined before and after the epidemic, as many as 19 new cases of tuberculosis were discovered. In the same community 14 persons already known to suffer from tuberculosis died of it during or shortly after the epidemic.

The items in these letters are contributed by regular correspondents in the various foreign countries.

ITALY

Italian Section of International College of Surgeons.—The Italian section of the International College of Surgeons held its fourth convention in Rome. The inaugural ceremony took place in Campidoglio on June 11, with Professor Rebecchini, the mayor of Rome, welcoming the surgeons. Among the speakers were Professor Jackson from the United States, who represented the foreign delegates, and Dr. Max Thorek of Chicago, the permanent secretary of the International College of Surgeons.

The first topic was syndromes due to venous obstruction in the upper extremities. Professor Tagariello reported his phlebographic studies of the return circulation of the arm, which were undertaken in an attempt to interpret correctly phlebograms of the axillary and subclavian veins that sometimes have been erroneously interpreted. Some authors had considered such roentgenograms the basis for a diagnosis of obstructed venous circulation of the arm. His studies revealed that the axillary vein may sometimes appear on roentgenograms to be occluded in persons with normal return circulation. This is particularly likely to occur when the contrast medium is injected into the cephalic vein rather than the basilic vein or when the deep veins are visualized. Such images are due to a backward flow of the opaque medium and do not indicate the presence of an obstruction.

His studies also disclosed how some roentgenographic images of the subclavian vein result from interruption or stenosis of the column of opaque medium. Such images depend on the more or less closed position of the terminal valve of the vein. The function of this valve is to prevent the reflux from the innominate vein, which causes an arrest or a decrease of the diameter of the column of contrast medium. A radiological contrast is therefore formed between the opaque column and the blood that has not become opaque. This, flowing back into the valvular sinuses, causes their distention, which draws the lobes more or less close. These roentgenographic pictures, which some American authors have considered to indicate intermittent obstruction of the subclavian vein, have no diagnostic value, the speaker said, unless they are considered along with the relative collateral circulation.

On the basis of his observations on 15 patients with the syndrome caused by an obstructed return circulation of the upper extremity, Professor Tagariello reviewed the subject known in the literature as effort thrombosis of the axillary and subclavian veins. He established the exact physical manifestations of the syndrome, distinguished a continuous type and an intermittent type, and emphasized that some authors have considered as intermittent some syndromes in which there is a true continuous and persistent obstruction. These authors interpreted as a sign of interrupted obstruction the cessation of the symptoms that, although typical of the continuous obstruction syndrome, is instead the expression of the relative insufficiency of the collateral circulation. This insufficiency becomes manifest only when muscular activity of the arm requires a venous flow greater than the substitute pathways can offer.

Professor Tagariello distinguished initial symptoms that are common to the two types of thrombosis. They generally appear when the person is performing manual labor or physical exercise, and consist of pain in the shoulder or the clavicular region, venous turgidity, cyanosis, swelling of the tissues, and increased venous pressure. In the syndrome of continuous thrombosis these symptoms become aggravated gradually, even if the arm is at rest, and there are in addition edema and subcutaneous venous reticulum in the arm, the shoulder, and the homolateral area of the chest. After an interval that may extend up to several months, all the symptoms regress or disappear except the venous reticulum, which becomes more visible. However, pain, venous turgidity, and cyanosis reappear if any work is performed with the arm that requires increased circulation. This is the so-called false interruption. In the intermittent type of syndrome the initial symptoms disappear completely when the movements or the positions of the arm that have caused them are discontinued, but the symptoms reappear every time the same position or the same movements are resumed.

Treatment varies and depends on whether it is possible to establish the exact location, extension, and nature of the obstruction. Anticoagulant therapy does not give good results in intrinsic obstructions. Resection of the thrombosed vein does not cure the form that recurs with effort. Phlebotomy with removal of the clot is rarely performed, although it is a radical and efficacious treatment. The obstruction should be removed, if possible, when it is extrinsic. The lower part of the minimus scalenus and the entire subclavian muscle should be excised when the subclavian vein is compressed between the scalenus and the clavicle or between the subclavian muscle and the first rib. During the discussion that followed, many physicians present reported their personal experiences with syndromes due to obstructed venous flow of the arm.

Dr. Sered, from Chicago, discussed treatment of tuberculosis of the cervix uteri, which, he emphasized, is commoner than it appears to be from the literature. He found it in 9 of 55 patients who had genital tuberculosis. The infection may arise because of direct contact or it may appear as a secondary infection from far removed foci. The commonest initial diagnosis is carcinoma of the cervix, whereas the most frequent clinical manifestation is vaginal discharge of blood.

Dr. Bornemeier, Chicago, discussed the evaluation of surgical risk in aged persons. A delayed intervention or a decision for nonintervention, owing to inability to evaluate the risk, increases the mortality for a condition that a timely intervention would cure. All the criteria that are followed for a middle-aged adult should be used for aged patients, although they must be applied more vigorously because aged persons react differently to trauma. To show that a careful evaluation assures a satisfactory percentage of good results, the speaker cited a series of 50 operations that a group of surgeons performed in aged persons in one year.

The following day a symposium on angiocardiosurgery was held under the chairmanship of Professor Darget, Bordeaux. Dr. Gorelick, New York, discussed the use of cardiopericardiopexy in coronary and rheumatic heart disease. According to Dr. Gorelick, this operation revascularizes the myocardium in such conditions. In this way the ischemic myocardium is made hyperemic and its function is improved and strengthened so that eventually an operation can be performed on the valves.

Dr. Di Matteo, from the surgical clinic of Rome, reported on the electrocardiograms that he and his colleagues, Drs. Conti and Danese, obtained before and after surgical interventions for chronic pericarditis.

Prof. C. P. Bailey, Philadelphia, discussed surgical treatment of aortic stenoses. It is advisable, he said, to intervene by the ventricular approach when the aortic stenosis is associated with mitral stenosis; he had a mortality of 6% in 16 patients with such condition that he operated on. When the lesion is limited to the aortic valve alone, it is wise to intervene using the old method, namely, through the aortic arch. In fact, by using the aortic approach, it is possible to see the aortic valve and the double-edged dilator that he made can be used. Professor Bailey substantiated his report with many diagrams and pictures.

Prof. Achille Dogliotti, director of the surgical clinic of Turin, reported his results with commissurotomy of the mitral valve. He obtained good results in 50 instances in which he used a valvulotome that he made. It consists of a metallic ring that has a small blade on the external surface. He stressed the necessity of operating on a bloodless heart in these patients by use of extracorporeal circulation. He succeeded in doing this recently in one patient.

Professor Valdoni, a pathologist and surgeon from the University of Rome, reported on the late results of more than 100 interventions in patients with mitral stenosis. He pointed out the contraindications for this intervention and said that he is in favor of digital valvotomy. He then asked Professor Bailey to talk about his experience in surgery of mitral stenosis. Professor Bailey discussed the results of his experience (846 interventions for commissurotomy) and confirmed his advocation of instrumental dilatation and the opportunity of extending its indications. To close the convention Professor Paolucci performed a series of major operations before those attending.

LONDON

The Hour of Birth.—One of the largest and most carefully controlled statistical investigations yet recorded of the age-old problem of the hour of birth has just been published by Enid Charles (*Brit. J. Prev. & Social Med.* 7:31, 1953). It is based upon a series of over 16,000 live and stillbirths in Birmingham in 1951-1952. For the greater part of the investigation the analysis was restricted to pregnancies and labors free from any pathological disturbance up to the time of delivery.

The percentage distribution by times of onset of labor showed a clearly marked peak at 2 a. m. (7.4%) to 3 a. m. (6.1%). In the six hour period from 11 p. m. to 5 a. m., 37% of labors began, compared with the expected 25%. The greatest difference between night and day is shown by comparing the 12-hour period from 9 p. m. to 9 a. m., when 62% of the labors began, with the 12 hours from 9 a. m. to 9 p. m., when 38% began. The point of minimum onset is less clearly marked, but occurs between 1 p. m. and 2 p. m. (2.4%). These differences were more marked in primigravidas than in multiparas. Thus, taking the two six-hour periods, from 11 p. m. to 5 a. m. and from 11 a. m. to 5 p. m., the percentages with onset of labor at these times were 48.1% and 13.2% for primigravidas, and 36.4% and 17.4% for multiparas. These figures are for domiciliary births. Those for institutional births showed less difference, the corresponding figures for primigravidas being 38.6% and 16.7% and for multiparas 34.6% and 17.7%.

The seasonal variation was not marked, though there was a tendency for a sharper peak in the summer than in the winter months. Miss Charles suggests that the summer-winter difference may be a response to red light, with the onset of labor occurring somewhat earlier. This suggestion can only be speculative, however, in the absence of clear-cut seasonal differences, particularly if the artificial conditions of life in a large smoke-polluted city are considered.

The 3,794 cases that were excluded from the above analysis because of "some features likely to affect the course of labor more or less adversely" (e. g., toxemia of pregnancy or presentation other than vertex), and of the 386 cases of stillbirth were compared. There seemed to be a tendency for the onset of labor to occur earlier in the day with what may possibly be increasing severity of pathology. That is, 30.5% of labors that resulted in stillbirth began in the first period compared to 22.9% of the normal births.

The curve of delivery times was much flatter than that of times of onset. The 12-hour period with the most deliveries was between 9 p. m. and 9 a. m., with 55.6% of all deliveries: 30% occurred in the six-hour period from 2 a. m. to 8 a. m. instead of the expected 25%. Parity made a considerable difference. Thus, for primigravidas the 12-hour period with most deliveries was 3 a. m. to 3 p. m., with 53.2% of all deliveries; 28% occurred between 6 a. m. and noon. Practically speaking, first deliveries are evenly distributed throughout the 24 hours. For multiparas the 12-hour period with the most deliveries was 9 p. m. to 9 a. m., with 57.5% of all deliveries; 31.4% occurred between 2 a. m. and 8 a. m. An analysis of the modal durations of labor suggested that in labors starting at 11 p. m., midnight, and 1 a. m. the mode is reached early, whereas in labors starting at 4 a. m. to 7 p. m. it is reached late. The author suggests that when labor starts during sleep the first few contractions may not wake the patient so that the duration appears shorter. She notes that this would hardly seem to account for the shorter duration of labors that begin at 10 and 11 p. m., and speculates that the uterus may be more relaxed at the end of the day, with a slight advantage gained in the course of labor.

An Elizabethan Banquet.—St. Thomas Hospital in London is one of the few hospitals in England that can span the 400 years intervening between the reigns of the two Queen Elizabeths. It is also one of the five Royal Hospitals of the City of London. Although its origin is lost in the mist of history, it can trace its ancestry back to at least the 12th century. Like so many religious institutions, it was a victim of the avarice of Henry VIII. In 1551, King Edward VI granted Letters Patent refounding the Hospital. The foundation charter, however, is dated June 26, 1553, 10 days before the King's death. This coincidence of the 400th anniversary of the refounding of the hospital and the coronation of Queen Elizabeth II has just been celebrated by an Elizabethan banquet.

The setting for the banquet was a marquee on the hospital's Sports Grounds at Stoke D'Abernon in Surrey. This is one of the loveliest corners of Surrey, with beautifully turfed playing fields set amid woodlands, with the old village church, famous for its brasses and a history dating back to the Normans, in the background. The menu provided ample justification for the title of the occasion and included swan, peacock, badger pie, and salmon.

The toast of the evening, "St. Thomas's Hospital and Medical School," was proposed by Mr. H. L. O. Flecker, the Headmaster of Christ's Hospital, the famous Blue-Coat School, which is another of the Royal Hospitals of London. He epitomized the characteristic feature of St. Thomas's Medical School by pointing out that great men are great men no matter where they are educated. The criterion of a medical school is the general standard of its graduates, and he had no hesitation in saying that, so far as St. Thomas's was concerned, the record stood high as judged by the standards of the men it had sent into general practice, there to maintain quietly and constantly a standard of service, integrity, and sympathetic understanding that had done much to maintain and enhance the prestige of general practice in Great Britain.

Poliomyelitis.—Some anxiety is being felt in official circles about poliomyelitis this summer. Actual figures so far are not alarming; there were 73 cases during the week ended June 13 (an increase of 22 over the previous week) and 65 during the week ended June 20. Although these figures show no great rise compared with 1952, the curve of reported cases during the last three months has been parallel to, and even sometimes slightly above, that of the highest figures for the period 1944-1952. It is this fact, in conjunction with memories of what happened in Copenhagen last year, that is disturbing the authorities, and preparations are being made for a serious outbreak. Several centers in this country are already equipped and staffed to deal with poliomyelitis. These, however, are few, and in too many instances apparatus and trained personnel are not found in the same institution.

Skin Sensitization to Antibiotics in Medical Personnel.—Early in the year, reports were received by the Ministry of Health that nurses who gave many injections of streptomycin were becoming sensitized to the antibiotic and that the numbers affected were causing anxiety in some areas. A survey was therefore carried out in 70 local health authorities and 76 chest hospitals and sanatoriums to determine whether sensitization to antibiotics had occurred among the nursing staffs. The total number of cases reported was 256.

The population exposed was ascertainable in only eight local authorities and four hospitals. In these the incidence was 4.3% for the former, 1.8% for the latter, and 3.5% for the two groups combined. The sensitizing agent was not ascertainable in all cases, but in 86 local authority cases and 102 hospital cases the patient was sensitized to streptomycin. In 73 local authority cases and 7 hospital cases there was sensitization to penicillin. There was one case each of sensitization to chloramphenicol and *p*-aminosalicylic acid. In many cases there was sensitization to more than one antibiotic and in a few sensitization to other drugs as well. In most cases the hands, face, eyes, and neck were involved. Medical staff, hospital nursing staff, district nurses, and hospital pharmacists were all involved.

On the recommendation of his Standing Medical Advisory Committee and the Central Health Services Council, the Minister of Health has circulated to all hospitals and local health authorities the following note prepared by a small committee of experts.

"It is realized that the technique here recommended following expert advice and ad hoc experiments, whilst in conformity with the practice of many doctors, differs markedly from that usually taught to nurses. . . . Contamination by the solution of the skin of both hands and face can readily occur when the syringe is held vertically at eye level and air expelled from it before injection: bubbles bursting at the tip of the needle then liberate a fine spray of the solution. In order to prevent sensitization, this operation must not be conducted in this way. The air should be expelled from the syringe with the needle still in the bottle from which the solution has been withdrawn. Care should be taken to support the piston during and after withdrawal, so that further air does not enter. Special care must be taken to ensure that the needle is firmly attached to the syringe so that no sudden leakage occurs under pressure.

"Contamination of the hands with solution can still take place if the needle used for withdrawal is removed and another substituted for the injection into the patient. This is commonly done, either because a wide-bore needle facilitates withdrawal of viscous fluids, or because it is believed that perforation of the rubber cap blunts the needle. This belief is unfounded; it has been shown by experiment that piercing these rubber caps as many as 100 times does not affect the sharpness of the needle. The second precaution advised is therefore that the same needle be used for both withdrawal and injection. This is particularly necessary when giving streptomycin, and since this solution is not viscous, as fine a needle (e. g., no. 14 or even no. 17) may be used as is desired. After use the syringe should be rinsed out in plenty of water, and the doctor or nurse should then immediately wash the hands to rid them of any traces of solution left on them."

PARIS

Improvement of Smallpox Vaccine.—For about 20 years a recrudescence of complications, especially postvaccinal encephalitis, following Jennerian vaccination, has been reported. During these last years, Prof. G. Ramon, R. Richou, and associates have endeavored to solve this problem by the preparation of a vaccine with diminished, or totally suppressed, virulence, while preserving its immunizing properties. They prepared an anavaccine by adding a very small dose of Formol (formaldehyde in wood alcohol and water), 0.02 to 0.05 cc. of the commercial Formol solution per 100 cc. of vaccine, and heating to 15 to 20 C for a variable period. Such a vaccine provokes in the horse the elaboration of antibodies that protected rabbits against inoculation of the same virus. This principle was conversely confirmed by similar experiments, also performed on the horse, with the aphthous virus and anavirus. Nélis and Lafontaine also noted that the addition of a very small dose of Formol reduces or totally suppresses the encephalitogenic potency of strains of virus having such a property.

The encouraging results obtained with this vaccine induced Ramon and associates to use the culture of smallpox viruses in the artificial culture mediums recommended for the culture of the aphthous virus. Among the advantages of such a virus are the possibility of abundant and economical production, a bacteriologically pure virus, and the ease with which it is attenuated or transformed into an anavirus. Moreover, such an antismallpox vaccine may be used by percutaneous, intradermal, or subcutaneous administration. It may also be used along with other vaccines, for example, associated with anavirulent vaccines (whooping cough anavaccine or influenza anavirus), or with anatoxins (diphtheria and tetanus). Investigations for the improvement of antismallpox vaccines and the prophylaxis of postvaccinal complications are now in progress, as reported to the Academy of Sciences by these authors.

Mediastinography.—A new technique for the exploration of the mediastinum has been evolved by Condorelli (Italy) that consists in infiltrating air between the different organs of the mediastinum so as to separate them. In France recently Professor Bariety has reported on his own technique. He uses a long needle with a sharp, pointed chuck, which enters the trachea 2 cm. above the manubrium of the sternum and then is pushed in perpendicularly so as to penetrate the tracheal wall. The pointed chuck is then replaced by one with a blunt pointed end provided with a small spring. The needle is then inclined at 30 degrees downward, and contact is sought with the posterior fibrous wall of the trachea, which is perforated guardedly. Penetration into the intertracheoesophageal space is indicated by a special sensation and slight recoil of the chuck spring followed by a release. The chuck is then withdrawn and the needle connected to an insufflation apparatus of the Küss type. For 20 minutes 300 to 600 cc. of air is injected under pressure of 20 to 30 cc. of water. According to the author, this technique is quite safe but is contraindicated in pulmonary tuberculosis with positive sputum and other infections of the respiratory tract.

SWEDEN

A Census of Cardiovascular Diseases.—The census recently started in Malmö to ascertain the incidence of valvular disease of the heart is one of many aspects of the growing interest in the cardiovascular diseases. Investigations published in 1950 by Dr. Gunnar Biörck and Dr. Blomqvist have shown that the cardiovascular diseases are responsible for about 40% of all the deaths in Sweden. While the mortality from all diseases combined has fallen 25% in the period 1911-1944, the part played in the same period by the cardiovascular diseases has increased by 76%. If the average duration of these diseases is 10 years, then some 250,000, or 3.5%, of the population of Sweden suffer from them at the present time. This figure may be an underestimation if one judges by the United States where the figure is double, 7%. Among the 250,000 with cardiovascular disease are some 100,000 persons under 67 years of age.

Dr. Biörck, who is attached to the Malmö General Hospital, has drawn attention to the curious fact that, while Sweden is endowed with numerous national associations for combating special groups of diseases and while the United States has the American Heart Association, no such organization has hitherto been established in Sweden. Perhaps a general appeal for the public to take part in a campaign against the cardiovascular diseases would be untimely since at present no adequate response could be made to a demand for more hospital accommodation. Effective education of the public with regard to the cardiovascular diseases presupposes knowledge of their etiology and mastery of adequate treatment. On these two points, we still have far to go, and, if the public were to appeal for examination and treatment on a much greater scale than heretofore, the necessary personnel and laboratory equipment would not be available. Dr. Biörck is not discouraged by these reflections, and in his planning for the future he refers to the achievements already realized at the cardiac clinic of the South Hospital (Södersjukhuset) in Stockholm under the direction of Professor Nylin and his staff.

Long-Acting Corticotropin (ACTH) for Asthma in Children.—At the children's department of the Caroline Hospital (Karolinska Sjukhuset) under the direction of Professor A. Wallgren, two forms of corticotropin (ACTH) have been tested for their effects on the asthma of childhood. Reporting on these tests in *Nordisk medicin* for June 5, 1953, Drs. C. G. Bergstrand, Inga Engström, and S. Kraepelien point out that, in one series of tests, ordinary corticotropin was given to 13 children and long-acting corticotropin to 11 children most of whom suffered from severe status asthmaticus and were refractory to ordinary antiallergic treatment. While the ordinary corticotropin was given by injection four times a day, the long-acting corticotropin was given only once every second or third day and, in some cases, only every fifth to seventh day. With ordinary corticotropin the asthma responded usually on the second day of treatment, and the results were remarkably good; however, the duration of freedom from attacks varied from less than a day to 15 weeks. With long-acting corticotropin there were also wide variations in the duration of remissions; the longest lasted three months. Ordinary corticotropin proved to be the more satisfactory alternative in desperate cases requiring rapid results. But long-acting corticotropin is to be preferred as it allows for outpatient treatment with an interval of days between each injection. This means that asthmatic patients can be treated with long-acting corticotropin over a considerable period without too great risk of side-effects.

MEDICAL LITERATURE ABSTRACTS

UNITED STATES

A.M.A. Arch. Internal Medicine, Chicago

92:1-152 (July) 1953

*Thyroid Gland in Relation to Neuromuscular Disease. C. H. Millikan and S. F. Haines.—p. 5.

Epidemiology of Penicillin- and Aureomycin-Resistant Staphylococci in Hospital Population. M. H. Lepper, H. F. Dowling, G. G. Jackson and M. M. Hirsch.—p. 40.

Descriptive Characteristics of Group of Patients with Moderate or Severe Diabetic Acidosis: Relation to Recovery or Death. L. Zieve and E. Hill.—p. 51.

*Prognosis in Moderate or Severe Diabetic Acidosis: Effectiveness of Various Measurements and Derived Severity Score in Predicting the Outcome. L. Zieve and E. Hill.—p. 63.

*Shock-Like State Due to Transfusion of Blood Contaminated with Gram-Negative Bacilli: Successful Treatment with Antibiotics and Arterenol. A. I. Braude, D. Williams, J. Siemienski and R. Murphy.—p. 75.

Pulmonary Manifestations of Scleroderma. W. H. Shuford, W. B. Seaman and A. Goldman.—p. 85.

Stilbamidine in Treatment of Disseminated Blastomycosis: Report of Two Cases. C R. Commins, B. Bairstow and L. A. Baker.—p. 98.

Thyroid Gland in Relation to Neuromuscular Disease.—Millikan and Haines discuss disorders in which dysfunction of the thyroid and of the muscles are associated on the basis of the following classification: (1) thyrotoxicosis and (*a*) myasthenia gravis, (*b*) chronic thyrotoxic myopathy, (*c*) periodic paralysis, (*d*) exophthalmic ophthalmoplegia; (2) hypothyroidism and altered muscular function. Clinical experience and pharmacological evidence indicate that myasthenia gravis and hyperthyroidism are separate diseases. The administration of neostigmine does not change the weakness of hyperthyroidism but does greatly alter the weakness of myasthenia gravis. Patients with hyperthyroidism show a normal response to the injection of d-tubocurarine, whereas patients with myasthenia gravis are highly sensitive to this drug. There is no consistent relationship between the two diseases. When they occur together, treatment is a serious problem. The use of I^{131} may be of great aid in hyperthyroidism, since thyroidectomy often cannot be performed safely. Chronic thyrotoxic myopathy is fairly common. The weakness associated with this disorder is most frequently in the pelvic girdle, although the shoulder girdle and peripheral muscles may be involved. The stretch reflexes are normal. The weak muscles are not strengthened by the administration of neostigmine and are not unusually sensitive to curare. The coincident occurrence of periodic paralysis and hyperthyroidism is more frequent than would be expected to occur by chance. There has been improvement or complete relief of the periodic paralysis after effective treatment of the hyperthyroidism. Clinical and laboratory evidence indicates that the two are separate diseases. Periodic paralysis may exist in some instances as a latent abnormality that becomes manifest as hyperthyroidism develops. The pathogenesis of exophthalmic ophthalmoplegia has not been explained. The ophthalmoplegia is not produced by a mechanism similar to that which produces ophthalmoplegia in myasthenia gravis. The exophthalmos is most likely a result of enlargement of the contents of the orbit, in which edema, infiltration with lymphocytes, and a marked increase of the fat in the extraocular muscles and other orbital tissues play a part. The ophthalmoplegia is apparently a result of the intrinsic changes in the extraocular muscles. Hypothyroidism produces abnormality in the contractile mechanism of muscle. This is not observed in other diseases which lower the basal metabolic rate and is not the same as myotonia. Thyroid dysfunction has been shown to be intimately associated with muscle function. In the cases studied this effect appears to be primarily upon intrinsic muscle metabolism rather than on the nervous system with secondary effects upon muscle action.

Prognosis in Diabetic Acidosis.—Zieve and Hill evaluate measurements thought to be of prognostic importance in diabetic acidosis by comparing their effectiveness in differentiating between a sample of patients who lived and a sample of those who died. Measurements analyzed were (1) age, (2) associated condition, (3) degree of unconsciousness, (4) duration of coma, (5) mean blood pressure, (6) blood urea nitrogen, (7) blood sugar, and (8) carbon-dioxide-combining power. The order of importance of the significant prognostic variables was age, blood pressure, associated condition, blood urea nitrogen, degree of unconsciousness, and duration of coma. Blood sugar and carbon-dioxide-combining power did not significantly differentiate between the two groups. When considered simultaneously, with allowances for their interdependence, the measurements may be regrouped into three levels of significance, as follows: highest, associated condition, blood sugar, and blood urea nitrogen; intermediate, blood pressure and duration of coma, and lowest, degree of unconsciousness. Age had no independent contribution, and carbon-dioxide-combining power remained insignificant. For a given degree of severity, a high blood sugar level was a favorable prognostic sign. The severity score, representing an optimal linear combination of the independently significant variables, was three times as effective as the prognostic factors considered individually. A simplified tabulation is presented enabling ready application of the formula in practice.

Shock-like State Due to Transfusion of Blood Contaminated with Gram-Negative Bacilli.—Braude and associates present the case of a man, aged 28, in whom a severe transfusion reaction developed due to massive bacterial contamination of banked blood. The three chief clinical characteristics of the transfusion reaction were fever, hypotension, and pain. Uremia, secondary to anuria, was the most prominent complication. Two species of bacteria were isolated from the bottle of transfused blood. One of these gave the typical reactions of E. freundii. The second organism belonged to the coliform group and resembled Aerobacter aerogenes. It was classified as a coliform bacillus of intermediate type. A total of 3 × 10^9 bacilli were counted in 1 ml. of the contaminated blood, using poured plates made with appropriate serial dilutions. The patient was promptly treated with polymyxin B, chlortetracycline (aureomycin), chloramphenicol, and penicillin. Subsequent studies bore out the logic of using several antibiotics. Polymyxin B proved to be highly bactericidal against the E. freundii and the coliform bacillus isolated from the patient but not against the coliform bacillus in the bottle. Chlortetracycline proved bactericidal for both coliform bacilli, but not for the E. freundii. Within 16 hours after treatment with antibiotics was started, the patient's blood had been sterilized. The hypotension was treated by arterenol. The amount required was far greater than that ordinarily recommended for treating shock. The patient received 80 mg. on the second day and 96 mg. on the third day. The doses required testify to the profound and persistent nature of the hypotension. When enough arterenol was being injected, the blood pressure was promptly restored and the restlessness, apprehension, confusion, and hyperventilation of the hypotensive state disappeared. Urinary output was restored. Gradual reduction in concentration of arterenol permitted eventual weaning of the patient from arterenol. The source of the contamination was investigated and found to be related to the accidental use of contaminated syringes for withdrawing blood from the bottles to obtain specimens for the Kahn test. Many of these syringes

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Titles marked with an asterisk (*) are abstracted.

had been used to enter bottles of blood without reactions having occurred. Undoubtedly many bloods were contaminated in this way, but the bactericidal or bacterial-suppressive action of many bloods, as well as the slow rate of bacterial growth in blood in the refrigerator, protected most recipients. Undoubtedly, the coliform bacillus isolated from the patient was the same as, or a closely derived variant of, the coliform bacillus present in the contaminated bottle. The differences between the two strains suggest that variation had been brought about by passage through a host. Slight hope was held that the induced bacteremia might be beneficial to the patient. This hope was based on the known necrotizing effect of Serratia marcescens on tumors. No beneficial effect materialized. The patient later died of Hodgkin's disease.

A.M.A. Arch. Ophthalmology, Chicago

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Transplantation of Ocular Tissue to Chorioallantoic Membrane: Observations on Virus Inoculation. H. P. Kirber and M. W. Kirber.—p. 2.
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Pathologic Physiology of Strabismus. F. H. Adler.—p. 19.
Minimal Amount of X-Ray Exposure Causing Lens Opacities in Human Eye. D. G. Cogan and K. K. Dreisler.—p. 30.
*Congenital Stationary Night Blindness Without Ophthalmoscopic or Other Abnormalities. F. D. Carroll and C. Haig.—p. 35.
Glucose Utilization of Retina: Influence of Various Media. W. Kornblueth, E. Yardeni-Yaron and E. Wertheimer.—p. 45.
Variation of Critical Flicker Frequency in Nasal Visual Field: Relation to Variation in Size of Entrance Pupil and to Spray Light Within Eye. M. Alpern and R. W. Spencer.—p. 50.
Surgical Management of Retinal Detachment with Retinal Tears in Retrolental Fibroplasia: Report of Two Cases. H. A. Lerner.—p. 64.
Cat-Scratch Disease and Parinaud's Oculoglandular Syndrome. J. V. Cassady and C. S. Culbertson.—p. 68.

Congenital Night Blindness.—The type of night blindness with which this report is concerned is present at birth, is stationary, occurs in about equal numbers of males and females, and is not associated with ophthalmoscopic abnormalities, In France the disorder is known as the "Nougaret type of night blindness," it having been traced through 10 generations of the Nougaret family. This pedigree reveals that an unaffected child of parents with this type of night blindness never carries the disease, and none of the descendants of such a child are involved. The history of an American family with this type of congenital stationary night blindness is presented. The case of a physician's wife, aged 53, is presented in detail. When she came for a refraction study, she mentioned incidentally that she had had night blindness since birth and stated, on being questioned, that numerous other members of her family (including her father, then dead) were similarly affected. With a correction of +0.75 sph., visual acuity was 20/20 in each eye. Ophthalmoscopic examination revealed nothing abnormal. The visual fields, as examined with an illumination of approximately 7 foot-candles, were normal. Subsequently the authors examined two of this woman's sisters, two of her nieces, a nephew, and a grandnephew. Of these seven members all had normal fundi, four had night blindness, and three had normal dark adaptation. Dark adaptation tests, absence of the Purkinje phenomenon, electroretinography, and clinical studies indicated a complete lack of rod function. An unusual opportunity was thus presented for the study of the visual capacity of persons who have normal (or almost normal) cone function only. One subject had completely normal cone function, and the other three had cone thresholds 0.20 and 0.40 log units above the highest normal; this is not a large deviation from normal. Color vision tests on one patient indicated mildly defective blue-yellow vision and low-normal red-green vision. Refraction showed small to moderate amounts of hyperopia or compound hyperopic astigmatism; the visual acuity with correction was normal. The visual fields were normal until the illumination was greatly reduced. A contraction of 20 to 40 degrees in the peripheral fields was present when the illumination was between 0.01 and 0.001 f.-c.; below the latter level the patient apparently saw nothing. Recently, electroretinograms have been recorded on two of these night-blind patients. The electrical responses obtained tend to confirm the lack of rod-receptor mechanism.

A.M.A. Arch. Otolaryngology, Chicago

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Auditory Tube and Tympanic Cavity During Embryonal, Fetal, and Prenatal Life: Histologic Study. M. J. Tamari.—p. 627.
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"Silent" Cholesteatoma. R. Henner and M. Tamari.—p. 674.

A.M.A. Arch. Surgery, Chicago

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*Cardiac Arrest and Ventricular Fibrillation: Experimental Study in Dogs with Acute Hypoxia and Hypercapnia and in Dogs with Chronic Hypoxia. B. D. Stewart, R. W. Virtue and H. Swan.—p. 703.
*Cardiac Arrest in Infants and Children: Report of 66 Original Cases. W. H. Snyder Jr., M. H. Snyder and L. Chaffin.—p. 714.
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Mesenteric Vascular Occlusion: Report of Five Successful Resections. W. L. Mersheimer, J. M. Winfield and R. L. Frankhauser.—p. 752.
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*Diospyrobezoar: Review of 14 Cases with Analysis of 46 Collected Cases from Literature. C. M. O'Leary.—p. 857.
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Results of Treatment of Acute Small Bowel Obstruction: Clinical Study of 205 Consecutive Cases. J. A. Bollinger and E. F. Fowler.—p. 888.

Cardiac Arrest and Ventricular Fibrillation: Experimental Study.—The effect of acute hypoxia and hypercapnia induced by breathing mixtures containing varying amounts of oxygen and carbon dioxide on the cardiac arrest produced by vagal stimulation was studied in normal and in chronically hypoxic dogs. Three methods for producing chronic hypoxia in dogs are described. In the normal dog, hypercapnia significantly enhances vagal cardiac arrest. In the chronically hypoxic dog, hypercapnia does not enhance vagal arrest. The effect of acute hypoxia and hypercapnia induced by breathing mixtures containing varying amounts of oxygen and carbon dioxide on the cardiac arrhythmias induced by cyclopropane anesthesia with intravenous administration of epinephrine was also studied. Acute hypoxia appears to make cyclopropane-epinephrine arrhythmias more prolonged, whereas hypercapnia does not appear to have any specific influence. In one-third of the dogs with chronic hypoxia, ventricular fibrillation was induced by vagal stimulation, whereas this arrhythmia did not occur with vagal stimulation in previously normal (nonhypoxic) dogs.

Cardiac Arrest in Infants and Children.—This study covers a 23-year period and records 66 cases of sudden arrest of the heart in children occurring in the operating rooms of two hospitals. There were eight cases (group 1) during the first five years of this study. These were collected from the records at the Massachusetts General Hospital in 1930. There were 58 cases during the last 18 years, occurring at the Los Angeles Childrens Hospital; 23 of these cases (group 2) of cardiac arrest were encountered in the general surgical services and 35 in patients with cardiac conditions (group 3). The 23 cases of cardiac arrest in the general surgical services occurred among a total of 57,600 consecutive general operations at the Los Angeles Childrens Hospital during the 20 year period 1932 to 1952. This is an incidence of 1 case of cardiac arrest in 2,504 operations. During the last 5 years there has been an alarming increase in incidence to 1 in 1,128 operations. In cardiac operations the incidence of cardiac arrest was 156 times more frequent; 35 cases of arrest occurred in 550 cardiac operations. The alarming increase in the incidence of cardiac arrest during the last five years in the general surgical service is not explained; it appears to be a problem of anesthesia, dependent perhaps on the dead space and the respiratory resistance in the mask and tubes leading from the face. The plan of management now in operation at the Los Angeles Childrens Hospital consists of immediate recognition of cessation of the heart beat during surgery by strapping a stethoscope to the precordium before operation. When arrest is apparent, the heart is exposed through the fourth interspace and massage is started. Oxygen is artificially supplied to the lungs. Whereas prior to the adoption of the present plan of management no child lived after cardiac arrest, now 25% completely recover.

Diospyrobezoar.—The term diospyrobezoar was suggested by DeBakey and Ochsner for concretions of persimmon origin in the gastrointestinal tract. In the 14 cases of diospyrobezoars reported by O'Leary there was a history of ingestion of persimmons. Diospyrobezoar was discovered at surgery or necropsy. The histories of 8 of the 14 cases are presented, 6 others having been described elsewhere. Data on 46 cases of diospyrobezoar reported in the literature are also presented. The persimmon is a plum-like fruit of a tree which belongs to the genus Diospyros. The orange-colored fruit contains multiple seeds. Gastric acidity seems to play a part in the development of diospyrobezoar, one report indicating that free acid was found in all but 2 of 26 cases with this type of bezoar. A soluble phlobatannin is present in the persimmon, and, particularly with an empty stomach, the ingestion of unripened or unpeeled ripened persimmons would allow coagulation and contact of the phlobatannin. A bezoar would occur by aggregation of fragments. The diospyrobezoar is found predominantly in males. Acute abdominal symptoms such as pain, tenderness, nausea, and vomiting may develop within 24 hours after ingestion, but these disappear in a few days and later milder abdominal symptoms appear. Many patients do not seek medical aid for these until they become severer in the late course of the disease, due to gastric ulcer or to intestinal obstruction. Ten of the 14 patients had a gastric ulcer. On hospitalization severe bleeding existed in five, penetration in four and a free perforation in one of the 10 with gastric ulcer. Acute intestinal obstruction occurred in one case. The preoperative diagnosis of a diospyrobezoar depends on fluoroscopy to establish the free mobility of an intragastric mass. Multiple diospyrobezoars may occur. A diospyrobezoar warrants careful exploration of the entire gastrointestinal tract. Surgical removal is advisable, and careful intragastric exploration is necessary to determine the presence of an ulcer. Three of the 14 cases observed at the author's hospital terminated in death, and necropsy revealed perforation of a gastric ulcer as the cause. The perforation had occurred in the preoperative period in one patient and during the postoperative period in two.

American J. Digestive Diseases, Fort Wayne, Ind.

20:187-220 (July) 1953

Therapy of Gastro-Duodenal Ulcerations. M. B. Levin and B. A. Gwynn.—p. 187.
Cholagogue and Choleretic Effects of Certain Laxatives When Introduced by Duodenal Tube. J. R. Twiss, B. I. Ashe and H. J. Johnson.—p. 194.
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Perforation of Esophageal Ulcer Three Years After Total Gastrectomy: Case Report. M. O. Cantor.—p. 210.

American Journal of Hygiene, Baltimore

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Experimental Studies on Tick Transmission of Tularemia Organisms. C. E. Hopla.—p. 101.
Histoplasmin Sensitivity Conversion Rates. N. E. Manos.—p. 119.

American Journal of Medical Sciences, Philadelphia

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The In Vivo Microscopic Intravascular and Vascular Reactions in Acute Poliomyelitis. E. H. Bloch.—p. 24.
Influence of Age and Sex on Urinary Bladder Retention Associated with Acute Poliomyelitis. C. H. Weatherly and A. J. Steigman.—p. 38.
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Influence of Temperature Upon Heparin and Citrate Clotting Times. S. Losner and B. W. Volk.—p. 61.
*Failure of Antibiotic Therapy in Infectious Mononucleosis. S. H. Walker.—p. 65.
Adenosine-5-Monophosphate in Treatment of Multiple Sclerosis. M. L. Lowry, R. W. Moore and R. Cailliet.—p. 73.
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Recent Advances in Potassium Metabolism. C. S. Nadler.—p. 88.
Psychiatric Factors in Dermatologic Disorders. A. J. Silverman.—p. 104.

Failure of Antibiotics in Infectious Mononucleosis.—Walker points out that the extremely varied course of infectious mononucleosis has led observers to attribute beneficial effects to many therapeutic agents, all of which have eventually proved ineffective. Recently antibiotic agents such as chlortetracycline (aureomycin) and chloramphenicol have been found effective in altering the course of infectious mononucleosis by some investigators, whereas others concluded that these drugs were ineffective. Walker describes studies on 78 patients with infectious mononucleosis, which he divides into several groups, depending on the treatment used. He feels that the closely comparable total course of the disease process in each of the treated or untreated groups is clear evidence of the failure of chlortetracycline and chloramphenicol to alter the course of the disease.

American Journal of Obstetrics & Gynecology, St. Louis

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Extraperitoneal Cesarean Section Vs. Laparotrachelotomy in Era of Modern Antibiotic Therapy. C. R. A. Gilbert, J. Valdares, D. F. Kaltreider and L. Douglass.—p. 79.
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Prolapse of Umbilical Cord. A. W. Kush.—p. 182.
Case of Endometriosis in Episiotomy Scar. W. S. Goldfarb.—p. 191.
Carcinoma of Breast Metastatic to Peritoneum as Source of Positive Vaginal Smears. L. Parsons and M. L. Taymor.—p. 194.
Case of Dissecting Aneurysm of Aorta Causing Maternal Death at Seven Months with Postmortem Cesarean Delivery of Live Premature Infant. A. Weil, R. J. Yoder and M. Bachand.—p. 207.

American Journal of Ophthalmology, Chicago

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Studies on Physiology of Eye Using Tracer Substances: IV. Comparison of Steady State Ratio of Sodium Between Plasma and Aqueous Humor in Normal and Scorbutic Guinea Pigs. R. O. Scholz.—p. 64.
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Studies in Antibiotic Antagonism and Synergism: Combined Action of Penicillin and Chloromycetin in Vitro and in Intraocular Staphylococcal Infections. J. C. Locke.—p. 75.
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Experimentally Induced Toxic Effects on Structure and Function of Visual Cells and Pigment Epithelium. W. K. Noell.—p. 103.
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Further Experimental Studies on Sympathetic Ophthalmia. R. C. Collins. —p. 150.

American Journal of Physiology, Washington

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Dextran, Oxypolygelatin and Modified Fluid Gelatin as Replacement Fluids in Experimental Hemorrhage. W. M. Parkins, J. H. Perlmutt and H. M. Vars.—p. 403.
Renal Vascular and Systemic Arterial Pressure Responses to Nervous and Chemical Stimulation of Kidney. I. H. Page and J. W. McCubbin. —p. 411.
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Am. J. Roentgenol. & Rad. Therapy, Springfield, Ill.

70:1-182 (July) 1953

Localized Thinning and Enlargement of Cranium with Special Reference to Middle Fossa. A. E. Childe.—p. 1.
*Occipitalization of Atlas. D. L. McRae and A. S. Barnum.—p. 23.
Agenesis of Corpus Callosum with Concomitant Malformations, Including Atresia of Foramens of Luschka and Magendie. E. F. Van Epps. —p. 47.
Cerebral Angiography: Fundamentals in Anatomy and Physiology. P. J. Hodes, F. Campoy, H. E. Riggs and P. Bly.—p. 61.
Roentgenologic Recognition of Habenular Calcification as Distinct from Calcification in Pineal Body: Its Application in Cerebral Localization. H. M. Stauffer, L. B. Snow and A. B. Adams.—p. 83.
Chronic Ulcerative Granulomatous Jejunitis and Ileojejunitis. R. H. Marshak and B. S. Wolf.—p. 93.
Orthoroentgenography. G. Schaltenbrand.—p. 114.
Historoentgenography (Microradiography) of Impregnated Cancer Tissue. F. Bohatirchuk.—p. 119.
Radioisotopes as Sources of Gamma Rays for Therapy. P. C. Aebersold.—p. 126.
Roentgen-Ray Motion Pictures by Means of Screen Intensification. R. H. Morgan and R. E. Sturm.—p. 136.
Multifilm Cassette for Use in Laminagraphy. W. M. Sennott and H. E. Worrell.—p. 141.
Interchangeable Mask and Compression Cones for Mucosal Relief. M. Horwitz and S. D. Mesirow.—p. 143.
Isodose Indicator. J. S. Laughlin and W. J. Henderson.—p. 146.

Occipitalization of the Atlas.—McRae and Barnum observed enough anomalies in the region of the foramen magnum to allow their separation into groups. This report deals with one specific type of congenital bony deformity at the foramen magnum. The lesion has been called occipitalization of the atlas or assimilation of the atlas to the occipital bone. They report 25 cases. The morphology, embryology, and the clinical aspects of these cases are discussed. The major symptoms of cervical cord compression due to the soft tissue and bony abnormalities associated with occipitalization of the atlas are weakness and ataxia of the lower extremities. Numbness and pain in the upper extremities is a prominent complaint, although the upper extremities are often involved also on the motor side. Sensory complaints in the lower extremities seem to be rare. Occipital headache may be present, as may blurring of vision and diplopia. Bladder symptoms are rare. Head or neck trauma would seem to play some part in the onset of symptoms in a condition which has presumably been present since birth. The objective findings comprise chiefly hyperreflexia, Babinski and Hoffmann reflexes, weakness, and other long tract signs in both the upper and lower extremities. Ataxia may be present to a marked degree, and nystagmus is frequent. Sensory findings are less frequent, but posterior column signs may be seen in the lower extremities—rarely in the upper. Hypesthesia is also seen in the extremities. This syndrome recalls a similarity to multiple sclerosis, especially with the fluctuation in the intensity of the signs and symptoms in some cases. The fact that over one-third of these cases were previously misdiagnosed, and most frequently as multiple sclerosis, would lend emphasis to the possible confusion of the entities. Therefore, the knowledge of and search for such cervical anomalies in cases of the syndrome described is of the utmost importance, especially in view of the possibility of benefit by surgical correction of the condition.

American Review of Tuberculosis, New York

68:1-156 (July) 1953

Biologic and Epidemiologic Aspects of Tuberculosis. R. J. Dubos.—p. 1.
*General Population Roentgenographic Surveys: Subsequent Course of Persons Considered to Have Tuberculosis. W. R. Ames and M. H. Schuck.—p. 9.
Basic Lesion in Chronic Pulmonary Emphysema. D. M. Spain and G. Kaufman.—p. 24.
Comparative Effects of Corticotropin and Cortisone on Experimental Tuberculosis. H. E. Weimer, R. A. Boak, E. Bogend and others. —p. 31.
Para-Aminosalicylic Acid in Sputum: Effect on Culture for Tubercle Bacilli. B. Fruhlinger and J. Bala.—p. 42.
Rapid Method of Screening Antituberculous Agents in Guinea Pig. S. D. Rubbo and B. J. Pierson.—p. 48.
*Use of Rabbit in Experimental Tuberculosis: I. Visual Method of Evaluation of Antituberculous Agents by Serial Chest Roentgenograms. W. Steenken Jr., E. Wolinsky, L. J. Bristol and W. J. Costogan.—p. 65.
Effective Therapeutic Dose of Isoniazid for Experimental Tuberculosis of Guinea Pigs A. G. Karlson and W. H. Feldman.—p. 75.
Detection of Small Numbers of Mycobacteria in Sections by Fluorescence Microscopy. D. F. Gray.—p. 82.
Effect of Time and Temperature on Antigenic Potency of BCG Vaccine. I. Storage at 2° to 4° C. K. Birkhaug and R. Darricarrere.—p. 96.
Use of 4-Amino-4'-B Hydroxyethylaminodiphenyl Sulfone (Hydroxyethyl Sulfone) in Pulmonary Tuberculosis. H. M. Payne, R. L. Hackney, C. M. Domon and others.—p. 103.
Studies in Metabolism of Mycobacterium 607: III. The Effect of Various Sources of Nitrogen on Growth, Riboflavin Production, and Synthesis of Pharmacologically Active Metabolite. Y. T. Chang and M. I. Smith.—p. 119.
Change in Ability of Stain of Mycobacterium Tuberculosis to Utilize Asparagine as Only Source of Nitrogen for Growth. C. Hurwitz, S. S. Nelson and S. Abramowitz.—p. 127.

Outcome in Survey-Detected Tuberculosis.—Results of the observation of 656 persons who were diagnosed as having pulmonary tuberculosis as a result of chest roentgenographic surveys and who were followed for an average of 2.7 years are presented. Active disease was found more frequently in younger than among older persons. During the course of this observation, 23 died from tuberculosis and 10 others died from nontuberculous causes. There were 114 instances of progression of tuberculosis. Once the persons observed were classified according to clinical status, the frequency of progression was fairly uniform regardless of age, at least among white persons with minimal disease. Progressions and deaths occurred in fairly predictable fashion. The relative frequency of each event was closely related to the initial clinical classification. Careful clinical evaluation of each person found to have suspected tuberculosis on a miniature film is of great importance in predicting the likelihood of future disability or death. Mortality from tuberculosis was approximately three times as high among the nonwhites as among the whites. Deaths among those in the group with active disease appeared to be approximately two and one-half times as frequent as among other persons. Nevertheless, consideration of the differences in age distribution which exists between these two groups makes the corrected mortality among the group of persons with active tuberculosis approximately four and six-tenths times as great. Mortality from all causes among those not considered to have active tuberculosis was no higher than in the general population.

Use of Rabbits in Experimental Tuberculosis.—Rabbits were selected as the experimental animals for the present studies. Experiments were devised whereby the course of established acute miliary tuberculosis, caseous pneumonic, or chronic cavitary disease could be closely followed by serial chest roentgenograms before, during, and after treatment with various antituberculous agents. Only the observations concerning acute miliary tuberculosis are considered in this report. The roentgenograms were taken with the rabbit in the upright position, the chest against the cassette. The rabbits weighed between 6 and 8 lb. (2,722 and 3,629 gm.). Infection was produced by the injection of a saline suspension containing 0.01 mg. (dry weight) of bovine tubercle bacilli into the marginal ear vein. The virulent Ravenel strain was used in most instances but, since the Ravenel culture maintained in this laboratory is resistant to *p*-aminosalicylic acid in vitro, the virulent bovine *p*-aminosalicylic acid-sensitive strain no. 4228-4 was utilized to infect the rabbits in experiments in which the therapeutic effect of *p*-aminosalicylic acid was being evaluated. Treatment was not started until the chest roentgenogram revealed widespread miliary disease of the lungs except for the rabbits given *p*-aminosalicylic acid which were treated immediately after infection. Streptomycin, viomycin, and isoniazid were administered in aqueous solution intramuscularly. Amithiozone and *p*-aminosalicylic acid were given by mouth in gelatin capsules. The cultures of bovine tubercle bacilli used to infect the rabbits were highly virulent in the described dosage and produced a uniformly and rapidly fatal miliary disease. It is not the purpose of the present communication to make quantitative comparisons of the results obtained with different drugs, but merely to point out that effective agents may be clearly differentiated from ineffective ones in a relatively short period of time by following the serial roentgenograms of the lungs. This method may be used to furnish a preliminary rapid evaluation of the new antituberculous agents. Any drug which causes a definite clearing of previously established advanced miliary lesions in a group of five or more rabbits within a period of three to six weeks may be considered to be an effective drug in the experimental animal.

Annals of Allergy, Minneapolis

11:267-418 (May-June) 1953. **Partial Index**

Increased Fragility of Eosinophilic Leukocytes Under Influence of Cortisone Treatment. F. M. Cortes and M. S. Mallen.—p. 272.
Respiratory and Physical Exercise in Treatment of Bronchial Asthma. B. T. Fein, E. P. Cox and L. H. Green.—p. 275.
An Estimation of Value of 3, 4 Dihydroxychalcone in Clinical Allergy. C. M. Gruber Jr. and L. Tuft.—p. 288.
Commonsense Approach to Psychotherapy in Allergic Practice. W. Kaufman.—p. 291.
Use of an Orally Administered Combination of Rapid and Prolonged Acting Bronchodilators in Asthmatic Children: Clinical Study of "Nephenalin." S. C. Dees, G. M. Harrison and R. S. Abernathy. —p. 297.
Evaluation of Oral Bronchodilator Agents in Patients with Bronchial Asthma and Pulmonary Emphysema. H. A. Bickerman, G. J. Beck, S. Itkin and F. Drimmer.—p. 301.
Relief of Bronchial Asthma with Oral Khellin. R. M. Mulligan.—p. 313.
*Personality Changes Induced in Children by Use of Certain Antihistaminic Drugs. N. Schaffer.—p. 317.
New Sublingual Therapy for Bronchial Asthma. E. B. Brown.—p. 319.
Headache and Tension: Cause or Effect. H. D. Ogden.—p. 329.
Schonlein-Henoch Syndrome: Report of Case. A. F. Piraino.—p. 332.
Adjunct Treatment of Certain Allergies Responding Unsatisfactorily to Conventional Therapy. M. M. Fenton.—p. 336.
Combined Allergen-Chlor-Trimeton Desensitization by Injection: Preliminary Study in Highly Sensitive Patients. M. D. Sanger, L. Maslansky, H. G. Rapaport and others.—p. 354.

Antihistaminic Drugs Causing Personality Changes.—Schaffer observed unfavorable changes in the personality of 23 children who were treated with antihistamines for various allergic states, such as, seasonal and nonseasonal vasomotor rhinitis, asthma, and eczema. Before therapy, all of these children were well-adjusted and fitted into the family pattern without abnormal difficulty. In many instances the problem of personality change was brought to the attention of the parents by school teachers who noted a sudden or gradual lack of interest in school work, temper outbursts, crying spells, or antagonism. Medical examination revealed an apprehensive or antagonistic child. Careful questioning in each case established the onset of these symptoms after the start of the antihistaminic therapy. Symptoms of the personality changes disappeared within two or three days after administration of the offending drug was stopped. In asthma cases in which the antihistamine had been given with ephedrine sulphate and aminophylline, these drugs were given separately without producing similar personality changes, but when the antihistamines were again prescribed, the behavior symptoms reappeared.

Annals of Internal Medicine, Lancaster, Pa.

39:1-202 (July) 1953

Responsibilities of Fellows of American College of Physicians. T. G. Miller.—p. 1.
Periodic Health Examinations. F. H. Shillito.—p. 7.
Carcinoma of Body and Tail of Pancreas. C. Strang and J. N. Walton. —p. 15.
Electrocardiographic Changes During Hemodialysis, with Observations on Contribution of Electrolyte Disturbances to Digitalis Toxicity. R. M. Kohn and J. E. Kiley.—p. 38.
*Acute Tubular Nephrosis, a Complication of Shock. V. H. Moon.—p. 51.
*Antimicrobial Therapy of Pulmonary Tuberculosis: Review of Six Years' Experience at Fitzsimons Army Hospital. C. W. Tempel, F. W. Pitts and W. E. Dye.—p. 61.
Significance of Buckled Innominate Artery. E. I. Honig, W. Dubilier Jr. and I. Steinberg.—p. 74.
Principles of Psychotherapy in General Practice. J. Bauer.—p. 81.
Relationship of Habits of House Mouse and Mouse Mite (Allodermanyssus Sanguineus) to Spread of Rickettsialpox. E. Nichols, M. E. Ringe and G. G. Russell.—p. 92.
Medical Significance of Illness and Absence in an Industrial Population. N. Plummer and L. E. Hinkle Jr.—p. 103.

Tubular Nephrosis in Shock.—Tubular nephrosis may be caused by any condition in which acute circulatory deficiency develops. It is not a primary disease of the kidneys, but is always secondary to grave disorders elsewhere. Hence it was once called extrarenal uremia. It is characterized by oliguria, proteinuria and the presence of casts, cells, and debris in the urine; there is retention of nitrogenous wastes leading to azotemia. The most important pathological features are degeneration and necrosis of the tubular epithelium. Two major factors are involved in the pathogenesis of tubular nephrosis: Toxins carried by the blood and lack of oxygen. The toxins may be of exogenous or endogenous origin, and the oxygen deficiency may result partly from renal vasoconstriction and partly from systemic anoxia incident to shock. Therapeutic measures must aim at counteracting the primary cause. For example, in shock resulting from intestinal obstruction, the existing strangulation or volvulus must first be relieved. Simultaneously the blood volume should be restored and hemoconcentration corrected by transfusions, but this must be done guardedly to avoid edema and cardiac embarrassment from excessive blood volume. The kidneys will not respond to diuretics or to increased fluid intake. The retention of nitrogenous wastes may be partially relieved by gastrointestinal or peritoneal lavage and by the use of the artificial kidney. The critical period is ended when oliguria gives place to polyuria.

Antimicrobial Therapy of Pulmonary Tuberculosis.—Since 1946 Tempel and associates subjected six antimicrobic agents to clinical investigation in a total of about 1,300 patients with pulmonary tuberculosis at Fitzsimons Army Hospital. The following drugs were used singly or in various combinations: streptomycin, *p*-aminosalicylic acid, amithiozone, viomycin, oxytetracycline (Terramycin), and isoniazid. Summarizing their observations on 875 patients with moderately or far advanced pulmonary tuberculosis, the authors say that intermittent streptomycin therapy equalled the therapeutic effectiveness observed when streptomycin was administered daily and there were fewer toxic effects and a lower incidence of streptomycin-resistant organisms. The combination of intermittent streptomycin and daily *p*-aminosalicylic acid administration is one of the most effective drug regimens available today. Combinations of drugs proved more effective than any antimicrobial agent used singly, and, with the exception of amithiozone and streptomycin, produced less drug resistance than either antimicrobial agent. Amithiozone proved of slight value, because it has a high degree of toxicity and low therapeutic effectiveness. Limited observations on viomycin and oxytetracycline indicated therapeutic effectiveness, and the combination of either of these agents with streptomycin nearly equalled the results obtained with the combination of streptomycin and *p*-aminosalicylic acid. A high incidence of toxicity limits the clinical use of viomycin and oxytetracycline. Preliminary studies with isoniazid were encouraging, but this drug should not be used alone, because of the high incidence of drug resistance. When combined with streptomycin this disadvantage is minimized, but further experience is necessary before this regimen can be recommended. Drug therapy is most effective against recent tuberculosis, that is, against disease that has existed for less than 6 or 12 months. The required duration of drug treatment has not been definitely established, but it is believed that treatment should be continued for from three to six months after roentgenoscopy reveals clearing and cavity closure and cultures are consistently negative. Most patients with extensive caseous pneumonic disease will require 8 to 12 months of continuous drug therapy. Although the results of drug therapy are often dramatic, they are not always curative, and so it should be combined with bedrest, collapse and surgical measures.

Diseases of Chest, Chicago

24:1-122 (July) 1953

Mental Hygiene in Prevention of Irregular Discharge of Tuberculosis Patients. F. J. Weber.—p. 1.
Group Therapy in County Tuberculosis Sanatorium: Psychologic Approach to Problem of Chronically Ill Confined Patient. H. A. Wilmer.—p. 19.
Treatment of Tuberculosis in Neuropsychiatric Hospital. H. P. Close, A. O. Hecker and R. P. Glover.—p. 34.
Relationship Between Pathological Changes in Blood Vessels in Resected Lobes and Lungs as Correlated with Pulmonary Artery Pressure Changes Recorded During Cardiac Catheterization. A. Hurst, S. H. Dressler and J. Denst.—p. 41.
Arterio-Venous Aneurysma of Lung. J. Muir.—p. 49.
Streptomycin in Silicotuberculosis. A. C. Cohen and G. C. Glinsky.—p. 62.
Esophageal Fistulae Complicated by Mycotic Empyema and Esophago-Aortic Perforation. J. Smith and H. R. Brodman.—p. 66.
Use of Beta-Glucuronidase as Measure of Pleural Irritation. S. H. Lawrence.—p. 72.
Effects of Intravenously Administered ACTH on Pulmonary Function in Bronchial Asthma and Emphysema. K. Braun, M. Samueloff and A. M. Cohen.—p. 76.
*Complications of Pneumoperitoneum Therapy. I. D. Bobrowitz.—p. 82.
*Mucocele of Lung Due to Congenital Obstruction of Segmental Bronchus: Case Report; Relationship to Congenital Cystic Disease of Lung and to Congenital Bronchiectasis. B. H. Ramsay.—p. 96.
Temporary "Spontaneous" Paralysis of Diaphragm. M. Kahn.—p. 104.

Complications of Pneumoperitoneum Therapy.—Pneumoperitoneum therapy has gained wider use in the nonsurgical treatment of tuberculosis. This is exemplified by the increasing number of patients subjected to this treatment in the New York Municipal Sanatorium during the years from 1947 to 1951, inclusive. During this period, 472 patients received a total of 24,750 peritoneum refills. Observations on this number of patients indicated that there is no question of the therapeutic value of this method, but it was also observed that complications develop in a considerable number of patients. Thoracic complications included mediastinal emphysema, pneumothorax, bronchial obstruction and atelectasis, and pulmonary collapse. Complications due to the administration of air were air embolism, subcutaneous emphysema, febrile response, and pain. Abdominal complications are as follows: adhesions, formation of fluid in the peritoneal cavity, intestinal obstruction, acute appendicitis, tuberculous and nontuberculous peritonitis. Herniation developed during pneumoperitoneum treatment in 10 patients. These included three umbilical and four inguinal hernias, and three pneumatoceles of the spermatic cord. The author also comments on six cases in which hernia existed before pneumoperitoneum treatment was started. In those in whom herniorrhaphy is done before pneumoperitoneum treatment is instituted, a wait of at least four weeks will be necessary and the pneumoparitoneum treatment will have to be made with special caution. There were four patients in whom edema of the lower extremity developed. The author feels that pressure exerted on the pelvic veins is probably the explanation of this edema. While some of the complications arising from pneumoperitoneum are mild, others are serious, and for this reason the indications for pneumoperitoneum treatment should be considered carefully.

Mucocele of Lung Due to Congenital Obstruction of a Segmental Bronchus.—The case reported was that of a 15-year-old girl, in whom tuberculosis was diagnosed on the basis of a positive gastric culture, previous contact with active tuberculosis, and symptoms of weakness, easy fatigue and feverishness. With the exception of the rounded density in the region of the apex of the lower lobe on the left side, the pulmonary infiltrations decreased considerably. It was believed that the rounded lesion should be removed, the tentative diagnosis being either a congenital bronchial cyst with associated tuberculosis, or pulmonary tuberculosis with cavitation in the left lower lobe. Operation disclosed filmy adhesions between the superior and posterior segments and the adjacent wall. The lung was abnormal in that the basal segments were dividid into two portions by a long vertical fissure. There was a partial fissure between the superior segment of the lower lobe and the basal segments; the interlobar fissure was incomplete, being totally absent in the posterior half; the bronchi of the posterior segment of the upper lobe originated from the subsegmental bronchus of the superior segment of the lower lobe and traversed the posterior portion of the usual fissure line. Dissection revealed a smooth, rounded, pale, semitranslucent cyst-like dilatation of the bronchial system. When an occasional branch was ruptured during the dissection, it was found to contain a large amount of thick, whitish mucoid material. A triple resection of the left lung was performed. The superior segment of the lower lobe and the posterior segment of upper lobe were removed together. A subsegment of the superior lingular segment of the upper lobe was removed separately, because of a tuberculous lesion at that point. The convalescence was uncomplicated. The author feels that this mucocele of the lung seems to provide the "missing link" between bronchial cyst and congenital bronchiectasis. The case suggests that pulmonary blebs, bullae, pneumatoceles and perhaps emphysema arise from disturbances in the collateral ventilation of the lungs.

Indiana State Medical Assn. Journal, Indianapolis

46:469-572 (June) 1953

Indications for Surgery in Jaundiced Patients. R. M. Zollinger and R. G. Saleeby.—p. 485.
Abdominal Emergencies Due to: 1. Non-Penetrating Abdominal Trauma. 2. Those Secondary to Lesions in Gynecologic System. M. B. Welborn.—p. 492.
Viral Hepatitis in 1952. V. M. Sborov.—p. 496.

J. Am. Pharm. Ass'n. (Scient. Ed.), Washington, D. C.

42:327-386 (June) 1953. **Partial Index**

Study of Possible Mechanism of Action of Pilocarpine. B. W. McCashland.—p. 327.
*Clinical Significance of the pH of Ophthalmic Solutions. G. Floyd, P. C. Kronfeld and J. E. McDonald.—p. 333.
Comparative Analysis of Ointment Base Efficiency Utilizing Pain Threshold Method. W. Lucas and E. P. Guth.—p. 344.
Microdetermination of Isoniazids. M. B. Jacobs.—p. 346.
Micromethod for Detection and Identification of Glycosides. C. A. Bliss and E. Ramstad.—p. 348.
Spectrophotometric Method of Assay for Belladonna Alkaloids. L. Worrell and R. E. Booth.—p. 361.

Clinical Significance of pH of Ophthalmic Solutions.—Floyd and associates list the following as the essential requirements of ophthalmic solutions: pharmacological effectiveness, freedom from irritation, stability, and sterility. In some instances it is difficult to meet all four requirements, principally because a vehicle or a pH which is optimal from the standpoint of pharmacological effectiveness may be undesirable from the standpoint of stability. Besides, there arises the question to what extent the greater effort and cost connected with the preparation of accurately buffered solutions is justified by greater pharmacological effectiveness. The authors reinvestigated the problem with more accurate methods of measurement. Pilocarpine seemed to be the logical drug for such a study, which consisted of measurements of the horizontal pupillary diameters of human eyes under the influence of topically applied drugs. The patients selected for the study had normal eyes except for the presence, in some cases, of early stages of senile cataract, or of healed choroiditic or other posterior segment lesions. The anterior segments were free of congestion or irritation. The light reflex and the near reaction of the pupils were normal. The measurements were made in a dark room with a slit lamp in which the illuminating system had been replaced with the microscope lamp. The preliminary tests revealed an individual factor as well as a dependence of the degree of miosis upon the initial width of the pupil, the change in pupillary width under the influence of a miotic drug being more pronounced in eyes with initially wide pupils and vice versa. There was evidence that vehicles of near-physiological pH are of no decided clinical superiority over more acid vehicles unless the acid vehicle offers a strong resistance to neutralization. The greatest differences in drug effect attributable to the vehicle amount to about 12% of the mean, which is probably equivalent to a reduction in the effect of pilocarpine from that of a 1% to that of a 0.75% solution. Under conditions of clinical practice where the usual dose of a drug solution is about two drops, even a highly neutralization-resistant vehicle does not appreciably interfere with the action of the drug. All observations recorded here are compatible with the view that the buffer capacity of the tears is highly effective in adjusting the pH of a drug solution. This natural process of adjustment probably favors the absorption of most of the alkoloids commonly used in ophthalmology.

Journal of Aviation Medicine, St. Paul

24:165-256 (June) 1953

Acceleration Problems of Naval Air Training: I. Normal Variations in Tolerance to Positive Radial Acceleration. F. R. Stauffer.—p. 167.
High Altitude—High Velocity Flying with Reference to Human Factors: IV. Opening Shock of Parachute Descents. A. P. Webster.—p. 189.
Motoric Responses of Eyes When Exposed to Light Flashes of High Intensities and Short Duration. S. J. Gerathewohl and H. Strughold. —p. 200.
Physiological Effects of Long Term Repetitive Exposure to Mechanical Vibration. V. Guillemin Jr. and P. Wechsberg.—p. 208.
Method for Demonstrating Biological Effectiveness of Cosmic Radiation at High Altitudes. J. Eugster.—p. 222.
*Hematocrit and Hemoglobin Response of Blood Donors. B. T. Cole. K. E. Penrod and F. G. Hall.—p. 227.
The Reserve Aviator. W. L. Erdbrink.—p. 230.
Effects of Menstruation Upon Vestibular Function in Normal Women. A. Rubin and J. Winston.—p. 234.
Marine Dive Bomber Squadron at Guadalcanal, 1942. V. S. Falk Jr. —p. 237.

Hematocrit and Hemoglobin Response of Blood Donors.—The removal of one liter of blood significantly reduced the interval of useful consciousness when oxygen was withdrawn at 35,000 ft. simulated altitude. When, during the latter part of 1951, Air Force personnel were requested to make blood donations to the Red Cross program, the question arose: should flight personnel be grounded following such donation and if so, for how long? Hematocrit and hemoglobin studies were carried out for 28 days posthemorrhage on 11 men who made blood donations. The average fall in hematocrit in this group was 11.7% and the average hemoglobin fall was 13%. The time at which the minimum values occurred varied among subjects, but was predominantly between the second and sixth day. Multiple studies were made on three subjects, one of whom gave three donations without complete recovery between. In each case the minimum period for both hematocrit and hemoglobin appeared between the second and third week after bleeding. These studies did not give clear evidence favoring grounding of a flyer for a period after a blood donation. While a high correlation exists with hypoxia tolerance, it is apparent from the data presented that the normal variation in hemoglobin between subjects is greater than the change induced in a subject in 8 of the 11 cases. Hemoglobin concentration, however, is not a fundamental index of individual fitness or performance.

Journal of Immunology, Baltimore

70:497-554 (June) 1953

Consideration of Components Concerned in Conglutinating Activities of Certain Complements. C. E. Rice.—p. 497.
Serological Study of Some Helminth Relations. H. Vogel.—p. 503.
Immunological Studies of Egg White Proteins: V. Cross-Reactions of Egg White Proteins of Various Species. L. R. Wetter, M. Cohn and *H. F. Deutsch.—p. 507.*
Dextran—An Antigen in Man. E. A. Kabat and D. Berg.—p. 514.
Separation of Alpha Toxin (Lecithinase) from Filtrates of Clostridium Welchii. F. B. Roth and L. Pillemer.—p. 533.
Analysis of Difference Between Destructive and Vaccine Strain of NDV (Newcastle Disease Virus) in Chick Embryo. Ch'ien Liu and F. B. Bang.—p. 538.

Journal Lab. and Clinical Medicine, St. Louis

41:829-994 (June) 1953. Partial Index

Studies on Copper Metabolism: VIII. Correlation Between Serum Copper Level and Various Serum Protein Fractions. M. E. Lahey, C. J. Gubler, D. M. Brown and others.—p. 820.
Absorption of Iron: Radioiron Studies in Idiopathic Hemochromatosis, Malnutritional Cytosiderosis, and Transfusional Hemosiderosis. T. H. Bothwell, H. van W. van Doorn-Wittkampf, M. L. Du Preez and T. Alper.—p. 836.
Measurement of Thromboplastic Factors and Profactors in Plasma: I. Deficits in Thromboplastin; Study of Reagents; Measurements of Antihemophilic and of Platelet Activities. J. P. Soulier and M. J. Larrieu.—p. 849.
Effect of Prolonged Administration of Epinephrine on Adrenal Cortical Function and Epinephrine Tolerance in Chronic Asthmatics. A. Leslie, W. H. Blahd and W. S. Adams.—p. 865.
Intrarenal Vascular Responses to Sympathetic Stimulation and to Adrenalin. R. Perez-Tamayo and R. Hernandez-Peon.—p. 871.
Serological Reactions in Rheumatoid Arthritis: IV. Persistence of Serum Factor Which Agglutinates Sensitized Sheep Cells. R. M. Pike, S. E. Sulkin, H. C. Coggeshall and R. I. Burdette.—p. 880.
Studies on Antibodies Eluted from Red Cells in Autoimmune Hemolytic Anemia. Z. D. Komninos and M. C. Rosenthal.—p. 887.
Presence of Anti-D Antibody in Serum of D^u Patient. C. I. Argall, J. M. Ball and E. Trentelman.—p. 895.
Effect of Heparin on Formation of P^{32}-Labelled Phospholipid. W. J. Levinsky, C. R. Shuman, R. Robbins and J. Meszaros.—p. 899.
Cold Agglutination of Sheep Erythrocytes as Factor in False-Positive Heterophile Agglutination Tests. C. J. D. Zarafonetis, H. L. Oster and V. F. Colville.—p. 906.
Treatment of Acute Radiation Syndrome in Dogs with Aureomycin and Whole Blood. F. W. Furth, M. P. Coulter, R. W. Miller and others. —p. 918.
Effect of Gastric Acidity on Absorption of Quinidine Sulfate from Gastrointestinal Tract. J. W. Mankin.—p. 929.
Neutralization of Aminopterin-Induced Leukopenia by Adenosine-5-Phosphoric Acid. E. M. Boyd.—p. 931.

Journal of Pediatrics, St. Louis

43:1-120 (July) 1953

Blood Galactose in Infants and Children. A. F. Hartmann, E. Grunwaldt and D. H. James Jr.—p. 1.
Acute Poliomyelitis: Clinical and Statistical Study of 263 Cases. E. Smith, I. L. Harris and P. Rosenblatt.—p. 9.
*Transplacental Transmission of Western Equine Encephalomyelitis. H. R. Shinefield and T. E. Townsend.—p. 21.
Western Equine Encephalomyelitis: Clinical Observations in Infants and Children. R. Cohen, R. E. O'Connor, T. E. Townsend and others. —p. 26.
*Treatment of Diphtheria and Diphtheria Carriers with Terramycin. S. Lall and S. Karelitz.—p. 35.
Agenesis of Lung with Vascular Compression of Tracheobronchial Tree. H. C. Maier and W. J. Gould.—p. 38.
Thrombocytopenic Purpura Occurring in Association with Paradione (Paramethadione) and Dilantin Sodium (Phenytoin Sodium) Therapy. T. E. Reichelderfer, P. H. Pearson and S. Livingston.—p. 43.
Treatment of Enterobiasis (Oxyuriasis): Need for Special Sleeping Garment. B. H. Kean.—p. 47.
Three Unusual Cases of Meningitis in Children. E. Chigier.—p. 54.
Acute (Infantile) Gaucher's Disease: Report of Case, Second in Family. A. K. Geddes and S. Moore.—p. 61.
Summer Camp for Children with Heart Disease. L. J. Ross.—p. 67.
Brief History of Infant Feeding. W. D. Davidson.—p. 74.
Meigs' Syndrome: Report of Case in Child. W. E. Knaus, J. Campos and W. Rose.—p. 88.
Paroxysmal Auricular Tachycardia Associated with Wolff-Parkinson-White Syndrome in Newborn Infant. M. B. Kreidberg and T. A. Dushan.—p. 92.
Hematemesis: Report of Case in an Infant Due to Arterial Bleeding from Base of Tongue. R. Turin, H. Bloch and J. Kaznetz.—p. 96.

Transplacental Transmission of Western Equine Encephalomyelitis.—Shinefield and Townsend review evidence of transplacental transmission of antibodies and viruses, and describe histories of 5-day-old twin girls observed during an epidemic of Western equine encephalomyelitis. The infants were delivered in a hospital and were discharged with no apparent abnormality four days later. Twenty-four hours later one of the twins showed symptoms suggestive of Western equine encephalomyelitis, and 12 hours later, the other twin showed similar symptoms. They were readmitted to the hospital with a probable diagnosis of meningitis, and intensive chemotherapy was instituted. Clinical improvement was observed on the seventh day, and the infants were sufficiently improved for discharge on the 13th day. Serologic tests indicated that the infants had had Western equine encephalomyelitis. Interrogation of the mother disclosed that she had had feverishness, headache, and lethargy on the day before delivery, and that nine days previous to that she had been severely bitten by mosquitoes in the region in which Western equine encaphalomyelitis had been prevalent. Twenty-three days after her illness the complement fixing antibodies in her serum were present in a titer of 1:128. Evidence strongly suggests transplacental transmission of the virus. During the same epidemic two other pregnant women with clinical and serological evidence of encephalomyelitis were observed, the onset of their illness being within three days of delivery. The infants in both cases showed neither clinical nor serological evidence of the disease either at birth or at two months of age. Apparently, maternal infection with Western equine encephalomyelitis in the late stages of pregnancy does not invariably infect the infant. Infection in utero may depend on local placental defects.

Oxytetracycline (Terramycin) in Treatment of Diphtheria.—Lall and Karelitz gave oxytetracycline (Terramycin) in doses of 50 mg. per kilogram of body weight per day to six patients with acute diphtheria and to six diphtheria carriers. Patients with acute diphtheria also received diphtheria antitoxin. The contact carriers were treated with oxytetracycline only. It was found that, when given along with antitoxin, oxytetracycline is effective in acute cases of diphtheria. The administration of oxytetracycline alone rapidly eliminated Corynebacterium diphtheria from the nose and throat of contact carriers. Oxytetracycline like chlortetracycline (Aureomycin) may be given to diphtheria patients who are allergic to penicillin or who harbor bacterial strains resistant to penicillin.

Minnesota Medicine, St. Paul

36:569-672 (June) 1953

The Future of the Medical School of the University of Minnesota. E. T. Bell.—p. 589.
Patients' Impressions of a Community Mental Health Center. C. Kram, N. J. Berkwitz and A. Lea.—p. 591.
Primary Neoplasms of Lung: Review of Minneapolis Public Health Center Cases. D. R. Hastings.—p. 594.
Clinical Diagnosis of Some Bullous Dermatoses. C. W. Laymon. —p. 598.
Dermo-Fungous Allergy. H. G. Ravits.—p. 602.
Infections of Urinary Tract: Helpful Hints on Management. E. N. Cook.—p 605.

36:673-792 (July) 1953

Some Personal Observations on Use of Routine Chest Radiography. R. Trail.—p. 701.
Reminiscence of Certain Events Before, During and After Discovery of Cortisone. P. S. Hench.—p. 705.
Psychiatry and Religion. F. J. Braceland.—p. 711.
Indications and Precautions in Cholecystectomy. W. H. Cole.—p. 714.
Humoral Vs. Neural Regulation of Extra-Hepatic Biliary Tract. E. A. Boyden.—p. 720.
Women in Medicine. B. Gordon.—p. 724.
Newer Concepts on Coagulation of Blood. A. J. Quick.—p. 726.
Blood Banking in Smaller Minnesota Communities. R. W. Koucky. —p. 736.
*Spinal Injection of Blood to Lower Blood Pressure in Essential Hypertensive Patients: Report of Two Cases. J. J. Heimark and R. L. Parsons.—p. 738.

Spinal Injection of Blood to Lower Blood Pressure.—According to Heimark and Parsons many hypertensive patients who sustain a severe cerebrovascular accident and survive eventually develop a normal blood pressure. The cause of this reduction in blood pressure remains unexplained. The authors introduced blood into the spinal canal of patients with hypertension. One of the authors performed the spinal puncture, while the other withdrew the blood from the arm and injected it into the spinal canal. At no time was the spinal fluid observed to be discolored from the previous blood injection; neither did there appear to be any increase in the spinal fluid pressure. Each blood injection seemed to be as nondisturbing as a spinal puncture for diagnostic purposes. The first injection in each case consisted of 1 cc. At the second injection the amount injected was again 1 cc., but at later injections 2, 4, or 5 cc. was injected. The first patient was given four and the second was given five injections. The blood pressure readings taken on the days of the injections are listed. Besides reductions in pressure, the bounding pulse subsided, and there was lessening of nervous tension. The authors believe that their experience indicates the desirability of further research with this method.

Neurology, Minneapolis

3:399-460 (June) 1953

Familial Primary Amyloidosis with Nervous System Involvement. A. D. Kantarjian and R. N. DeJong.—p. 399.
Quatitative Determination of Gamma Globulin in Cerebrospinal Fluid: Its Application in Multiple Sclerosis. E. Roboz, W. C. Hess and F. M. Forster.—p. 410.
Quantitative Determination of Acceleration and Intracranial Pressure in Experimental Head Injury: Preliminary Report. E. S. Gurdjian, H. R. Lissner, F. R. Latimer and others.—p. 417.
Muscle Action Potentials in Polymyositis. F. Buchthal and P. Pinelli. —p. 424
Neurologic Symptoms and Signs in 347 Cases of Verified Brain Tumor. D. C. Freeman, M. A. Petrohelos and J. W. Henderson.—p. 437.
Clinical Significance of Dissociation of Abdominal Reflexes. T. Lehoczky and T. Fodors.—p. 453.
Radioisotope Investigations on Blood-Brain and Blood-Liquor Barrier. G. L. Haines, L. A. French and G. E. Moore.—p. 460.

3:479-552 (July) 1953

*Lobotomy and Epilepsy: Study of 1,000 Patients. W. Freeman.—p. 479.
Arteriographic Evidence of Spasm in Cerebral Vascular Disorders. A. Ecker and P. A. Riemenschneider.—p. 495.
Effect of Intravenous Barbiturates on Abnormal Involuntary Movements. P. S. Bergman, M. Nathanson and M. B. Bender.—p. 503.
Parenchymatous Cerebellar Syndrome Following Protracted High Body Temperature. D. A. Freedman and J. E. Schenthal.—p. 513.
Subarachnoid Haemorrhage of Unusual Aetiology. J. N. Walton.—p. 517.
Electroencephalographic Studies of Infants and Children Who Acquired Intracranial Injuries at Birth. O. Morstad and B. R. Kaada.—p. 544.

Lobotomy and Epilepsy.—The occurrence of convulsive seizures after prefrontal lobotomy is a serious problem. A total of 622 patients subjected to prefrontal lobotomy were followed for a minimum of two years and some for more than 15 years. A group of 498 patients treated by transorbital lobotomy was included in the study for comparison. All patients who had seizures were included in the statistics, even if the convulsions were observed only in the immediate postoperative stage. The lowest percentage was obtained in patients operated on only once, with no complications, and free from preexisting brain disease or epilepsy. This figure was 19% for prefrontal lobotomy and 1% for transorbital lobotomy. The highest incidence was in seven patients with both preexisting brain disease and operative complications, lobotomized two or more times. Six of these seven patients had seizures. There was only one such patient in the transorbital series and no convulsions have been reported yet. From these figures it may be concluded that the extent of damage to the cerebral cortex is the outstanding factor in the development of convulsions. In general, the closer the incisions come to the motor cortical centers, the more likely the patient is to have postoperative epilepsy. In this respect the transorbital operation is safer. Postlobotomy convulsions can be controlled in about 60% of cases; thus they differ little from other post-traumatic epileptic states. Advancing age lessens the incidence of seizures. Men are more likely to have seizures after lobotomy than women. Patients with convulsions have a lower level of social achievement than those who do not, but a fair number, 43 of 150 patients with seizures, are able to maintain themselves in a useful mode of life after lobotomy. Quiet patients are somewhat more apt to have seizures than violent patients. The only paradox in this study was the finding of 11 patients who had a history of convulsive seizures before operation, but not after. Allowing for errors in observation and too short a period of follow-up, there still remains the likelihood that a change for the better in the emotional status of the disturbed patient may also bring about a change in the physical, chemical, and electrical components in total behavior that may reduce the incidence of seizures.

New England Journal of Medicine, Boston

248:1081-1126 (June 25) 1953

•The Clinical Significance of the Emergence of Drug-Resistant Organisms During the Therapy of Chronic Pulmonary Tuberculosis with Hydrazides of Isonicotinic Acid. E. O. Coates Jr., G. M. Meade, W. Steenken Jr. and others—p. 1081.
Elastic Stockings in Prevention of Pulmonary Embolism: II. A Progress Report. R. W. Wilkins and J. R. Stanton.—p. 1087.
Care of the Premature Infant in Massachusetts. R. G. Rice, E. Bloom, V. A. Getting and S. Saunders.—p. 1090.
Observation on Pathogenesis of Laryngeal Granuloma Due to Endotracheal Anesthesia. R. T. Barton.—p. 1097.
Homeostatic Limits to Safe Parenteral Fluid Therapy. N. B. Talbot, J. D. Crawford, and A. M. Butler.—p. 1100.

Drug Resistant Organisms During Treatment with Isonicotinic Hydrazides.—Coates and associates studied the clinical course of 43 patients under treatment with the hydrazides of isonicotinic acid, 27 receiving isoniazid and 16 iproniazid. Particular attention was given to the emergence of drug resistant tubercle bacilli. The patients were a selected group, mostly with far advanced chronic, cavitary tuberculosis. Increased bacterial resistance to isoniazid or iproniazid appeared as early as the fourth week of therapy, and by the 14th week 80% of the group yielded cultures showing increased resistance in vitro. Loss of drug effect, as indicated by reversion of sputum bacillary counts to previous high levels, or by unfavorable roentgenographic changes, occurred during therapy in 28 of 43 patients. In most cases such an event was preceded by, or coincidental with, the appearance of drug-resistant organisms in the sputum. The appearance of bacilli in the sputum with only slightly increased drug resistance may be associated with roentgenographic or bacteriological evidence of loss of drug effect. General clinical improvement, which was striking in most cases, was often maintained in spite of roentgenographic or bacteriologic deterioration. The authors believe that the isoniazid drugs may be of use in conjunction with collapse or excision of cavitary disease and in combination with other chemotherapeutic agents.

249:1-44 (July 2) 1953

•Effect of Penicillin Prophylaxis on Streptococcal Disease Rates and Carrier State. L. W. Wannamaker, F. W. Denny, W. D. Perry and others.—p. 1.
•Intracardiac Puncture in Cardiac Arrest: Multiple Episodes of Ventricular Asystole with Survival. L. W. Cronkhite Jr.—p. 8.
Fracture Blister. W. R. Buckley and W. C. Lobitz Jr.—p. 11.
Glucostatic Mechanism of Regulation of Food Intake. J. Mayer.—p. 13.
Changing Concepts in Surgery of Cancer. J. E. Dunphy.—p. 17.

Penicillin Prophylaxis of Streptococcic Disease.—Wannamaker and associates present observations made during several trials of penicillin as a prophylactic agent in epidemic streptococcic pharyngitis and tonsillitis at an Air Force base. Oral administration of penicillin eradicated group A streptococci from the throats of carriers when given in a dosage of 1,000,000 units twice daily for 10 days and was probably effective in half this dosage. A dosage of 250,000 units once daily for 10 days did not suppress or eradicate the carrier state in many men harboring these organisms. A single intramuscular injection of 600,000 units of procaine penicillin in oil failed to eradicate group A streptococci, but four similar injections administered every other day were effective in almost every case. Benzethacil (dibenzylethylenediamine penicillin G) given as a single injection of 600,000 units or two simultaneous injections totaling 1,800,000 units successfully eradicated the carrier state. The streptococcic disease rates and carrier rates were reduced for two or three weeks in large groups of men who received 1,000,000 units of penicillin by mouth twice daily for 5 or 10 days. It is suggested that short-term intermittent administration of a bactericidal drug such as penicillin may be an effective method for the prophylaxis of streptococcic disease and may have certain advantages over the continuous exhibition of suppressive agents such as the sulfonamides. During times of emergency large quantities of penicillin may not be readily available, in which case sulfadiazine may be employed for prophylaxis and penicillin used for treatment of streptococcic infections.

Intracardiac Puncture in Cardiac Arrest.—Cronkhite reports on a 70-year-old woman who was seized by a substernal oppression and irregular heartbeat two days before admission to the hospital. She felt as though she were going to faint. These symptoms recurred several times during the day and were usually accompanied by vomiting. Each episode lasted from 3 to 10 minutes. On the next day she lost consciousness twice after experiencing the same symptoms. On the morning of admission she "fainted" seven or eight times and was seen by her physician, who sent her to the emergency ward. She stated that her blood pressure had been elevated for about five years and that for two months she had experienced shortness of breath on exertion. An electrocardiogram taken before any medication was given showed a bizarre pattern of extreme ventricular irritability, with runs of ventricular tachycardia and ventricular fibrillation. During the next 24 hours the patient experienced 23 separate episodes of complete and prolonged ventricular standstill. In each the heart was made to beat again by the introduction of a cardiac needle into the ventricular wall. No medication was introduced into the heart. During the first 12 hours efforts were made to influence the irritability of the heart by the following drugs: 0.4 gm. of quinidine sulfate by mouth, which was followed by vomiting, 1,400 mg. of procaine amide hydrochloride intravenously over a 5-hour period, 0.4 mg. of atropine sulfate intravenously and 0.4 cc. of 1:1,000 epinephrine solution diluted to 1:500,000 intravenously. None of these drugs favorably influenced the attacks of asystole. Electrocardiograms were taken of each attack during the 24-hour period. Gradually, the attacks subsided. The patient was discharged on the 10th hospital day. When seen three months later she had no cardiac symptoms. The author suggests that mechanical stimulation of the heart with an intracardiac needle, even without the use of intracardiac drugs, may prove helpful in the treatment of acute cardiac standstill.

New Jersey Medical Society Journal, Trenton

50:239-286 (June) 1953

*Sudden Death in Infancy. W. B. Nevius.—p. 242.
Metrazol: Its Place in Geriatric Therapy. J. O. Smigel, L. N. Serhus and S. Barmak.—p. 248.
Prevention of Transfusion Reactions by Intravenous Chlor-Trimeton Maleate. F. M. Offenkrantz S. Margolin and D. Jackson.—p. 253.
Metabolic Consequences of Trauma. J. H. Bland.—p. 256.
Prantal Methylsulfate in Gastrointestinal Diseases: Study of 25 Cases. F. D'Imperio.—p. 265.

50:287-324 (July) 1953

Some Benign Causes of Cecal Deformity. L. S. Ellenbogen, V. E. Johnson, M. Molitch and L. Erber.—p. 290.
Palatable Low Sodium Diet in Hypertension. G. G. Ornstein and L. Lercher.—p. 294.
Auricular Flutter and Flutter-Fibrillation Associated with Intraventricular Block to Resemble Paroxysmal Ventricular Tachycardia. H. D. Chieffo and L. J. Garibaldi.—p. 299.
Glaucomatous Optic Atrophy Complicated by Syphilis: Case Report. L. F. Raymond.—p. 304.
Experiences with Neohydrin,® an Oral Mercurial Diuretic. D. A. Mauriello and M. Re.—p. 305.
Relief of Allergic Disorders with Double Calcium and Phosphate Salt. G. I. Kurtz.—p. 308.

Sudden Death in Infancy.—In this critical review of the problem of sudden death in infants Nevius stresses that it is unlikely that it is caused by mechanical suffocation. It is much more probable that some natural but unrecognized disease process has been operating. He cites observations that indicate that in about 80% of these cases some form of acute respiratory infection is the cause of death. At least a gross postmortem examination and, in addition, careful microscopic examination of all the main organs is necessary if the true cause of death is to be established. In addition, the following laboratory examinations are helpful in many cases: a blood culture, a complete blood count, and determination of the blood sugar content, carried out as close to death as possible. If not obtained prior to death, a blood culture and a lumbar puncture done post mortem should reveal valuable information.

New York State Journal of Medicine, New York

53:1273-1376 (June 1) 1953

Problem of Intestinal Cancer. A. F. R. Andresen.—p. 1313.
New Therapy for Angina Pectoris: Angina Pectoris and Water Metabolism. E. Foldes.—p. 1322.
Interrelationship Between Blepharoconjunctivitis and Chronic Sinorespiratory Infections. S. J. Prigal.—p. 1327.
Observations on Use of Cortisone and ACTH in Management of Terminal Malignancy. A. P. Raab and A. Gerber.—p. 1333.
Respiratory and Positional Changes in QRS Complex of Lead AVF. I. L. Rubin and O. A. Rose.—p. 1335.
Intestinal Obstruction Due to Gallstones. R. M. Greenlee and W. H. Berry.—p. 1342.
Observations on Effect of Isoniazid in Acute and Chronic Tuberculous Pulmonary Lesions. J. Zeichner and W. G. Childress.—p. 1347.

North Carolina Medical Journal, Winston-Salem

14:221-260 (June) 1953

Three Interrelated Responsibilities of Public Health and Private Practice in North Carolina. J. W. R. Norton.—p. 221.
Outlook for Medical Education in North Carolina in Relation to Three Medical Schools and Its Impact on Medical Practice. C. C. Carpenter.—p. 224.
Problem of Addictive Drinking: II. Some Characteristics of the Alcoholic. R. E. Reed.—p. 227.
Carcinoma of Pancreas: Review of Surgically Treated Cases. D. H. Clark.—p. 230.
Self-Administration of Mercurial Diuretics. J. S. Bower.—p. 234.
Azygos Lobe as Diagnostic Problem, with Report of Case. H. H. Bradshaw and D. E. Ward Jr.—p. 236.
Avulsion Injuries of Hand: Report of Two Cases. P. McBee and J. O. Allen.—p. 238.
Cooperative Role of Doctor and Minister. C. H. Peace.—p. 240.
Statistical Report on Survey of Glycosuria in School Children in Wilmington. P. L. Stuck.—p. 244.
Peyronie's Disease. R. J. Reeves.—p. 245.

Northwest Medicine, Seattle

52:523-602 (July) 1953

Surgical Revascularization in Arteriosclerotic Thrombosis. E. J. Wylie.—p. 541.
Beta-Pyridylcarbinol (Roniacol) Poliomyelitis. H. L. H. Dick, P. Parker and B. Till.—p. 544.
Office Diagnosis of Operable Congenital Heart Lesions. R. Tidwell, R. Rushmer and R. Polley.—p. 546.
Prepaid Medicine, Friend or Foe?: A Critical Analysis—Third and Final Installment. G. B. Leitch.—p. 547.
Injuries of Kidney. R. T. Scott.—p. 552.
Aneurysm of Splenic Artery. M. H. Querna.—p. 556.

Pennsylvania Medical Journal, Harrisburg

56:513-608 (July) 1953

Newer Concepts in Treatment of Pulmonary Emphysema. A. L. Barach.—p. 537.
Geographic Distribution of Histoplasmin Sensitivity in Pennsylvania. J. D. Aronson and H. C. Taylor.—p. 543.
*Clinical Histoplasmosis in Pennsylvania. R. Charr.—p. 548.
Surgical Treatment of Diverticulitis of Colon. A. Behrend and M. Behrend.—p. 553.
Congenital Fibrocystic Disease of Pancreas. J. A. Jones.—p. 559.
Congenital Cystic Disease of Lung. J. M. Snyder.—p. 563.

Clinical Histoplasmosis in Pennsylvania.—Two cases of clinical histoplasmosis are described, in both of which the correct diagnosis was made before death. In one, the tissues removed from the ulcer in the soft palate showed the characteristic Histoplasma bodies in the cytoplasm of the macrophages. In the other, the histologic studies as well as the culture of the tissues and exudate confirmed the diagnosis. Where the diagnosis of histoplasmosis is suspected, reliance cannot be placed on the skin and/or complement-fixation test. Despite the extensive dissemination of histoplasmosis in the second patient, both the skin test and complement-fixation tests were negative. The failure of this patient to react to the skin test and the negative complement-fixation reaction are analogous to the phase of anergy one observes in certain cases of disseminated tuberculosis. There is no specific therapy in histoplasmosis. Evidently much depends upon the severity of the infection and the ability of the patient to combat the disease. Until more effective and specific therapy is discovered, it may be wise to advise a prolonged bed rest plus a nutritious diet as in the treatment of pulmonary tuberculosis. Histoplasmosis is probably more prevalent than the reports indicate. The presence of the organisms in soils, rivers, dogs, and rodents presents a public health problem.

Plastic & Reconstructive Surgery, Baltimore

11:419-522 (June) 1953

Rehabilitation for Patients with Congenital and Acquired Disabilities—Certain Orientation Aspects. W. H. Frackelton.—p. 419.
Bi-Lobed Flap. A. Zimany.—p. 424.
Some Suggestions in Cosmetic Rhinoplasties and Microgenia. S. Cohen.—p. 435.
*Dermal Sinuses of Dental Origin with Report of Three Cases. M. Gurdin and W. J. Pangman.—p. 444.
New Technique for Rapid Transfer of Abdominal Skin Flaps: Preliminary Report. J. C. Mustardé.—p. 454.
An Experimental and Clinical Study on Mechanism of Skin Homograft Elimination. G. Dogo.—p. 475.
Further Observations on Use of Split Vermilion Bordered Flap. B. Cannon and J. E. Murray.—p. 497.

Dermal Sinuses of Dental Origin.—Gurdin and Pangman point out that when a sinus occurs within the oral cavity, the teeth may be suspected as the cause, but should the same lesion occur on the skin, the dental origin may be overlooked unless the physician bears such a possibility in mind. The findings usually are skin papilla with chronic or recurrent drainage of pus and sinus formation as determined by probing or x-ray examination. If the sinus opening is not too distant from the involved dental root, the probe end may be guided to the root. A cord-like structure on intra-oral palpation that extends from the external opening to the alveolus was present in one of the three cases described in this report, and has also been reported by others. X-ray evidence of root abscess, dental cyst, or localized osteitis may be observed. Intraoral roentgenograms may show spicules of retained roots in an edentulous alveolus or a small area of localized osteitis, which might be missed in routine extraoral x-ray examination. In the first of the three cases presented a diagnosis of skin cancer had been made until methylene blue was injected into the opening of the sinus and a metal probe inserted. Dissection was carried along the probe to include all stained tissue, which was found to end against the alveolus in the region of the lateral incisor of the upper jaw. An apical abscess with granulation tissue was curetted and packed open, and healing occurred per primum. There has been no recurrence. The lesion on the cheek was mistaken for another pustule in the second patient, who had pustular acne. The third patient had had a "cyst" of the cheek for three years. Factors that may confuse the diagnosis are: the absence of a history of acute dental abscess, a negative x-ray examination, an edentulous mouth, a confusing biopsy report, and a positive bacteriological report, such as the detection of organisms belonging to the Actinomyces group. The differential diagnosis must take into consideration epidermoid cysts, salivary fistula, thyroglossal sinus, bronchial sinus, actinomycosis, and syphilitic osteitis. In the treatment, the pathological condition in the jaw must be corrected first. If a chronic apical abscess is present, the tooth should be extracted and retained root or sequestrum should be removed, and the granuloma curetted. Most sinus tracts will then close. However, if the sinus has persisted for a long time, surgical excision may be necessary. If operative procedures have been resorted to before proper diagnosis, an umbilicated scar may persist, which will require secondary revision.

Proc. Staff Meet. Mayo Clinic, Rochester, Minn.

28:337-352 (June 17) 1953

Cholecystoduodenal Fistula Associated with Chronic Abscess in Abdominal Wall Containing a Gallstone. J. J. Berens, G. A. Hallenbeck and J. C. Cain.—p. 337.
*Agranulocytosis Caused by Phenylbutazone and 4-Amino-Antipyrine. J. M. Kiely and J. M. Stickney.—p. 341.

Agranulocytosis Caused by New Antirheumatic Drugs.—Kiely and Stickney present the histories of two patients in whom agranulocytosis developed after the use of the new antirheumatic drugs, phenylbutazone (Butazolidin) and 4-aminoantipyrine. The granulocytes were the only element of the blood affected. In each case approximately two months of continuous administration of the drug preceded the onset of agranulocytosis. Recovery after withdrawal of the drug was prompt. The hazard of this serious complication must be considered when drugs are used, which are chemically related to aminopyrine. When drugs are introduced, the statement often is made that they are without hematological effect. While that statement may be true for the 100 cases that the reporter is accounting for, he has no right, on the basis of comparatively few cases, to infer that the drug does not have any effect on the bone marrow. It requires observation of many thousands of cases to determine whether or not the marrow will be seriously affected. A review of the history of the sulfonamide drugs shows that as each drug was discovered, each was said to be without effect on the blood, and yet it took only a few months before reports appeared of granulocytopenia, thrombocytopenia, hemolytic anemia, and many others. This same is true of chloramphenicol, which has been known to produce aplastic anemia. The difficulty is that with a drug such as chloramphenicol, the reaction commonly is not immediate, as it is in granulocytopenia, but rather the reaction and its recognition are far removed from the time of administration of the drug. In the administration of any new drug we must always think of the possibility of some effect on the bone marrow and the peripheral blood.

Public Health Reports, Washington, D. C.

68:641-736 (July) 1953. **Partial Index**

- Twenty-Six Years of Cancer Control in Massachusetts. H. L. Lombard. —p. 647.
- Distribution and Use of Gamma Globulin. *A Statement Issued April 20, 1953, by the Division of Medical Sciences of National Research Council.*—p. 660.
- Plan for Allocation of Gamma Globulin: *Issued April 15, 1953, by the Office of Defense Mobilization in Executive Office of the President.* —p. 666.
- "New Occasions Teach New Duties." H. R. Leavell.—p. 687.
- 1952 Summary of Foodborne, Waterborne, and Other Disease Outbreaks. C. C. Dauer.—p. 696.
- Histoplasmin Sensitivity in Mississippi—A New Boundry. R. M. O'Neal. —p. 714.
- Rapid Method for Distilling Fluorides from Water Samples. R. E. Frazier and H. G. Oldfield.—p. 729.

Review of Gastroenterology, New York

20:449-536 (July) 1953

- Panel Discussion on Gastrointestinal X-Ray Methods, Diagnosis and Treatment. W. W. Lermann, L. Martin, F. W. Bancroft and S. Weintraub.—p. 459.
- Some Oral Lesions of Gastroenterological Interest. A. Berger.—p. 478.
- Roentgen Diagnosis in Esophageal Diseases. A. J. Bendick.—p. 492.
- Carcinoma of Esophagus, Diagnostic and Treatment Problems. J. L. Pool.—p. 499.
- Endometriosis of Colon and Its Treatment. S. L. Governale and C. A. Fioretti.—p. 510.

Rhode Island Medical Journal, Providence

36:291-344 (June) 1953

- American Medicine's Report to the Nation. E. J. McCormick.—p. 301.
- Korsakoff Psychosis Showing Unusual Features. P. F. O'Mahony.—p. 304.
- The Medical Society and Medical Character. A. H. Jackvony.—p. 306.
- Western Hemisphere Conference of the World Medical Association. P. P. Chase.—p. 309.

South Carolina Medical Assn. Journal, Florence

49:139-170 (June) 1953

- The Battle is Not Over: President's Address. L. P. Thackston.—p. 139.
- Intermittent Peritoneal Lavage; Report of Case. A. V. Williams Jr., R. A. Howell and J. A. Boone.—p. 142.
- Chronic Prostatis. E. D. Guyton.—p. 146.

South Dakota J. Med. & Pharmacy, Sioux Falls

6:113-144 (May) 1953

- Safety in Anesthesia. R. W. Ridley.—p. 113.
- Problems in Chest Surgery: Some Warnings and Suggestions. G. I. W. Cottam.—p. 117.
- "Why Private Practice of Medicine Furnishes This Country with Finest Medical Care." D. E. Olson.—p. 122.

6:145-168 (June) 1953

- Some Medical Complications of Pregnancy. J. F. Cornely.—p. 145.
- Bacteriological Studies in New-Borns Using Terramycin, Terramycin-Polymyxin-B and Silver Nitrate. T. H. Willcockson and C. D. Cox. —p. 147.
- Medical Applications of Radioactive Isotopes. F. E. Kelsey.—p. 149.

Texas State Journal of Medicine, Fort Worth

49:485-598 (July) 1953

- Paroxysmal Rapid Heart Action: Problems in Recognition and Management. F. F. Rosenbaum.—p. 488.
- Commissurotomy for Mitral Stenosis. R. H. Mitchell, C. R. Johnson and A. M. Goggans.—p. 499.
- *Norepinephrine in Treatment of Shock. J. M. Skelton, L. C. Mills and J. H. Moyer.—p. 511.
- Treatment of Hypertension with Hexamethonium Alone and in Combination with Apresoline. S. I. Miller, W. R. Livesay, H. B. Snyder and J. H. Moyer.—p. 516.
- Solitary Calcified Cyst of Spleen: Second Case in Author's Experience. H. W. Neidhardt.—p. 522.
- Hypervitaminosis D Due to Ertron. J. W. Davis.—p. 524.

Arterenol in Treatment of Shock.—The primary and most satisfactory approach to the treatment of shock consists of blood, plasma, and/or fluid replacement therapy, lowering of the head, and measures directed to correct the cause of the shock. Although these measures when used properly have been satisfactory in most cases, there are patients in whom the shock state persists with subsequent death. Various sympathomimetic drugs have been used when measures aimed at expanding blood volume failed. The most promising of these is arterenol, which unlike epinephrine, has an almost pure vasopressor action without subsequent vasodilatation and very little cardiac-stimulating effect. Skelton and associates administered arterenol intravenously to 47 patients in shock who did not respond to other measures. A satisfactory pressor response was obtained in 45 patients. There was an immediate pressor response. Pressures can be maintained at desired levels, but there is a rapid loss of effect after discontinuing the drug. Arterenol is safe for use in the presence of cardiovascular disease and it has no detrimental effect on the cardiac rhythm. The underlying cause of shock must be corrected, even after it has been successfully combated by artificial means.

Western J. Surg., Obst. & Gynecology, Portland, Ore.

61:353-438 (July) 1953

- Diagnosis and Treatment of Achlorhydria: Preliminary Report of New Simplified Methods. G. S. Sharp.—p. 353.
- Role of Plastic Surgery in Cancer of Head and Neck. E. S. Lamont. —p. 361.
- Chorionepithelioma: Presentation of Case Histories. H. C. Stearns, —p. 368.
- Factors Influencing Prognosis in Treatment of Papillary Cystadenocarcinoma of Ovary. R. C. Benson, R. S. Sherman Jr. and E. L. Lucia. —p. 387.
- Carcinoid Neoplasms of Rectum. V. C. Waite.—p. 408.
- Unsatisfactory Results in Gallbladder and Bile Duct Surgery. W. M. Toone.—p. 414.
- Primary Malignancy of Female Urethra: Review of Recent Literature and Report of 25 Cases. D. W. Ritter.—p. 420.

Wisconsin Medical Journal, Madison

52:373-424 (July) 1953

- General Uses of ACTH (Corticotropin) and Cortisone. J. H. Sagi, F. Belfus and F. P. Krumenacher.—p. 373.
- Treatment of Inguinal Hernia in Infancy and Childhood. M. T. O'Meara.—p. 381.
- Epidemiologic Aspects of Poliomyelitis in Wisconsin, 1947-1952: Their Relation to Gamma Globulin Distribution and Value in Epidemic Control. M. Feig.—p. 383.
- Congenital Esophageal Atresia with Tracheo-Esophageal Fistula and Associated Pectus Excavatum, Prematurity and Right Aortic Arch: Case Report of Surgery with Recovery. W. Weisel and G. Dedinsky. —p. 389.

World Medical Association Bulletin, New York

5:129-192 (July) 1953

- First World Conference on Medical Education. L. H. Bauer.—p. 174.
- Medical Education in Australia. M. Archdall.—p. 176.
- Medical Education and Society. P. Bonnevie.—p. 177.
- General Aspects of Medical Teaching in Canada. H. E. MacDermot. —p. 178.

FOREIGN

Acta Chirurgica Belgica, Brussels

52:335-426 (April) 1953

*Contribution to Study of Mammary Sarcoma. E. Monnoyer.—p. 339.
Acute Inflammatory Tumors of Large Intestine. A. Bremen, Wolkas, Carlier and Others.—p. 358.
Electric Defibrillator. E. Henrotin, M. van der Ghinst and C. Libert. —p. 370
Angiopneumography in Thoracic Surgery. G. Proyard.—p. 376.
Experimental Contribution to Study of Methods of Surgical Treatment of Arterial Obliterations. M. van der Ghinst.—p. 381.

Mammary Sarcoma.—The malignity of sarcoma of the breast depends on its histological type. It may be comparatively benign or highly malignant. Its prognosis is generally better than that of mammary carcinoma; certainly, it is much better than that of sarcoma localized elsewhere in the body. Sarcoma is suggested by a tumor in the breast which develops rapidly, attaining a considerable size within a short time; which is free in relation to the lower planes and adheres to the skin only when ulceration is impending; and which is not accompanied by regional lymphatic involvement except in the case of lymphosarcoma, in which the lymph nodes may be greatly enlarged. Certain types of carcinomas may present these same characteristics, however, and the diagnosis must always be confirmed by biopsy. Metastasis takes place chiefly by way of the bloodstream; the tumors are highly vascular and intense capillary proliferation accompanies their rapid growth. The newly formed vessels offer little resistance to the sarcoma cells, which readily pass through the endothelial barrier and are rapidly disseminated by the blood. Lymphatic spread is rare by comparison, except in lymphosarcoma. Local recurrences are frequent, but do not prevent final recovery; follow-up of one patient with three recurrences in two years showed that she was alive and well seven years after her last operation. Sarcomas are radioresistant, but postoperative radiotherapy appears to lessen the danger of local recurrence. The rarity of this lesion is shown by the fact that, of 1,900 breast cancers seen at the anticancerous center of the University of Liège since 1925, only nine proved to be sarcomas; five of the patients are alive and well after periods ranging from two and one-half years to 27 years, two died of sarcoma, and two died from unknown causes. Radical mastectomy with removal of lymph nodes as a precautionary measure, followed by radiotherapy, is the treatment of choice.

Anales de la Facultad de Medicina de Montevideo

38:1-74 (Jan.-Feb.) 1953. **Partial Index**

*Pathogenesis of Scleroderma and Raynaud's Disease. M. Ferrari and A. Fernández.—p. 15.
Sensibility of Motor Neurones of Anterior Horn of Spinal Cord After Unilateral Lesion of Vestibular Nuclei. J. P. Segundo.—p. 27.
Manometric Exploration of Spinal Canal. R. A. Piaggio Blanco, A. Ferrari Forcade and H. Malosetti.—p. 31.
Rational Surgery of Hemorrhoids. O. Tapella.—p. 45.

Raynaud's Syndrome and Progressive Scleroderma.—The subject of this report, a woman of 32, was the mother of five normal children. Two years prior to her examination she had had an acute vaginal hemorrhage which lasted four days after normal delivery of her fifth child. After the hemorrhage the patient complained of asthenia, loss of weight, and constant headache. There was a partial loss of the axillary and pubic hair and of the eyebrows. Hypoglycemia, hyponatremia, a diminished elimination of the 17-ketosteroids in the urine and atrophic cells in the preparations of the vaginal secretions were observed. Diagnosis of scleroderma was confirmed by a biopsy. The lungs and the esophagus were involved by the disease. The Thorn test of induced eosinopenia failed after administration of epinephrine but was positive after administration of 25 mg. of corticotropin (ACTH). The authors call attention to the role of the anterior hypophysis in the development of the Raynaud's syndrome and progressive scleroderma. The chronologic sequence in the case was as follows: The acute vaginal hemorrhage caused ischemia of the anterior hypophysis with consequent imbalance of the hypophysiocorticoadrenal and hypophysiogonadal systems, insufficiency of cortical and gonadal hormones and the development of diffuse scleroderma and Raynaud's syndrome.

Beiträge zur klinischen Chirurgie, Munich

186:259-384 (No. 3) 1953. **Partial Index**

Question of Metastization of Carcinomas of Gastro-Intestinal Tract. H. Kopf.—p. 259.
New Light on the Regeneration Theory of Fischer-Wasels with Regard to Etiology of Cancer. A. Haeffner.—p. 262.
Surgical Treatment of Intestinal Fistulas Following Gun Shot Wounds. L. Czembirek.—p. 272.
*Remarks on Bronchial Carcinoma. W. Denk.—p. 282.
Carcinoma in Twins. L. Schönbauer.—p. 201.
Ventrofixation of Braun's Entero Anastomosis in Securing the Suture in Gastrojejunostomy After Total and Subtotal Gastrostomy. A. Plenk. —p. 297.
*Observations on Vagus Resection. F. Mandl.—p. 300.
Development of Carcinoma After Gastric Operations. P. Huber.—p. 317.
Radical Operation on Carcinoma in the Region of the Papilla of Vater and of the Head of the Pancreas. P. Fuchsig and G. Hienert.—p. 328.

Bronchial Carcinoma.—An increase in bronchial carcinoma has become evident in many countries in recent decades. Denk states that in Vienna carcinomas of the respiratory organs account for increasingly larger percentages of the total cancer mortality. Attempts to explain this increase have been concerned chiefly with the etiological importance of tobacco, particularly cigaret smoking. Denk investigated the smoking habits of 757 among 1,145 patients with pulmonary cancer, and found that 10.8% were nonsmokers, light smokers (less than 10 cigarets per day) accounted for 30%, moderate smokers (up to 20 cigarets per day) for 30.8% and heavy smokers (more than 20 cigarets per day) for 28.4% of this number. These figures indicate a much smaller percentage than do other statistics for the heavy smokers and a comparatively high percentage (41%) for nonsmokers and light smokers. Thus the American observations that the greater the consumption of cigarets, the greater also the likelihood of the development of bronchial carcinoma does not hold true to the same extent in Austria. The author feels that possibly a different process of preparation of the tobacco or the use of different insecticides might account for these differences. The arsenic and benzpyrene content of the air in big cities likewise can be no more than a contributing factor in the increasing incidence of bronchial carcinoma. Efforts should be made to diagnose bronchial carcinoma during the asymptomatic stage, and to accomplish this men over 40 years of age should be subjected to roentgenoscopy of the chest at regular intervals. However, "silent" carcinomas are not necessarily always operable. Of 41 silent bronchial carcinomas, 9 were inoperable on exploratory thoracotomy, in 8 other cases distant metastases produced the first symptoms, 8 patients refused operation, 7 carcinomas were found unexpectedly at necropsy, and 9 patients underwent radical operation. Even if all of the 8 who refused operation had been operable, only 17 of 41 silent bronchial carcinomas would have been amenable to radical operation. Tomography and bronchoscopy are valuable aids in the diagnosis, whereas cytologic examination at the most can corroborate or weaken the results of other examinations. In deciding the advisability of surgical treatment functional tests of heart and lungs should not be neglected, because patients with coronary insufficiency tolerate pneumonectomy poorly. Of 1,145 patients with bronchial carcinoma 612 proved inoperable on the basis of clinical examination. Of the 533 subjected to surgery, 241 underwent pneumonectomy, 40 lobectomy and 252 exploratory thoracotomy. A total of 181 of the 533 operated on are still alive.

Clinical Observations on Vagotomy.—Mandl says that since 1947 he has used vagotomy routinely in a large number of patients with ulcers. The surgical mortality of vagus resection was 1% in 300 patients. He found that the operation is inadvisable in gastric ulcers, except in those located high up, near the cardia; in these latter cases it may be tried instead of a total gastrectomy. Vagotomy without gastroenterostomy produces less favorable results than vagotomy plus gastroenterostomy. Follow-up on patients with duodenal ulcer who underwent vagotomy plus gastroenterostomy are encouraging. Many observers regard vagotomy as the operation of choice in jejunal peptic ulcer or in recurrent ulcer after gastric resection. Mandl's own observations were not entirely satisfactory in these cases. It may prove possible to avoid a secondary operation in some patients with perforating ulcer, when vagotomy is added to the closure of the perforation. Vagotomy proved effective as a secondary operation in perforating duodenal ulcer but ineffective in perforating gastric ulcer. Morbidity and mortality rates were not changed by adding vagotomy to gastric resection. It is possible that vagotomy will improve the permanent results of gastric resections in a larger number of patients. In patients with inoperable gastric carcinoma resection of the vagus will control the pain and make the final stages of the disease more tolerable for the patient.

British Journal of Ophthalmology, London

37:321-384 (June) 1953. **Partial Index**

- *Toxoplasmosis in the Adult. S. Duke-Elder, N. Ashton and M. Brihaye-Van Geertruyden.—p. 321.
- Two Provocative Tests for Glaucoma. L. P. Agarwal and C. K. Sharma.—p. 330.
- Treatment of Corneal Infection with Ps. Pyocyanea by Subconjunctival Injection of Polymyxin E. D. Ainslie.—p. 336.
- Structure of Vitreous Body: Observations by Means of Phase-Contrast Microscope. A. A. Rossi.—p. 343.
- Ocular Complications in Thalassaemia Minor. C. Rudd, P. J. Evans and A. L. P. Peeney.—p. 353.
- Activity of Cerebral Cortex in Amblyopia. G. Parsons-Smith.—p. 359.

Toxoplasmosis in the Adult.—Duke-Elder and associates present the case of a man, aged 40, who had recurrent posterior uveitis of obscure etiology. Clinically it was of granulomatous type. It recurred persistently and resulted in loss of perception of light and led to destruction of the eye. Clinical, histological, and serological evidence indicated that the disorder was due to histoplasmosis. It is suggested that the disease was either congenital or acquired in childhood, and that the active chorioretinitis in adult life was due to a recrudescence of the early infection. When sections of 32 cases of granulomatous uveitis were examined, about half showed structures resembling toxoplasma forms. However, in some of the cases in which these were found, which included such conditions as post-traumatic uveitis, and Behcet's syndrome, the diagnosis of toxoplasmosis would have been highly improbable. It is, therefore, concluded that these histological appearances probably result from cellular debris or nuclear fragmentation, and that, in the absence of confirmatory serological tests, such findings have a limited value.

British Journal of Urology, Edinburgh

25:89-178 (June) 1953. **Partial Index**

- Partial Nephrectomy in Renal Tuberculosis. J. Cibert.—p. 89.
- Ileo-Cystoplasty for Contracted Bladder of Tuberculosis: Report of Case. J. Cibert.—p. 99.
- Complication Following Use of Streptomycin and Para-Amino-Salicylic Acid in Advanced Renal Tuberculosis. S. Scher.—p. 103.
- Bilateral Wilms' Tumour: Case Report with Review of Literature. J. M. Sheach.—p. 109.
- Leiomyosarcoma of Kidney. J. Bruce and G. H. D. McNaught.—p. 114.
- Leiomyoma of Epididymis. R. M. Laird.—p. 116.
- Primary Lymphosarcoma of Urinary Bladder. A. Jacobs and T. Symington.—p. 119.
- *Vesico-Intestinal Fistula, with Special Reference to Crohn's Disease. R. H. O. B. Robinson.—p. 127.
- Hypokalaemia and Renal Actinomycosis Following Ureterocaecostomy: Report of Case. H. Le Brun and I. E. W. Gilmour.—p. 132.
- Recognition and Treatment of Congenital Urethral Valves. F. P. Raper.—p. 136.
- Postmeatal Urethral Stricture Following Prostatectomy. J. H. Johnston.—p. 155.

Vesicointestinal Fistula in Regional Ileitis.—Robinson presents three cases of vesicointestinal fistula due to regional ileitis (Crohn's disease). The condition is rare, two other writers having reported only one case each. The first of the author's three patients died on the day after the operation, but this case produced an awareness of the possibility of correct diagnosis and treatment. The three patients were men, aged 19, 44, and 22 respectively. All were referred to the author as having chronic cystitis of obscure etiology. In the first the cystitis had been thought to be due to carcinoma, in the second to diverticulitis, and in the third to an infected urachal rudiment. The significance of the less dramatic bowel symptoms had not been appreciated, although in all three contamination of the urine by bowel contents had occurred at some time. In only one case could the fistula be demonstrated preoperatively. In each case the diagnosis became obvious once the possibility of regional ileitis as an etiological factor was realized, but undue time had been spent in arriving at a correct diagnosis. In two the disease was limited to the terminal ileum, while in the third the cecum and ascending colon were also involved. The first patient was very seriously ill when first seen, but without doubt could have been saved by an exclusion operation and intravenous therapy. The other two responded to exclusion alone with complete relief of their symptoms.

British Medical Journal, London

1:1345-1404 (June 20) 1953

- *Oxford Epidemic of Bornholm Disease, 1951. J. F. Warin, J. B. M. Davies, F. K. Sanders and A. D. Vizoso.—p. 1345.
- Bornholm Disease in Children. M. E. Disney, E. M. Howard and B. S. B. Wood.—p. 1351.
- *Isolation of Coxsackie Virus from Two Cases of Bornholm Disease. R. H. A. Swain and R. G. Mitchell.—p. 1354.
- Bacterial Content of Healthy Human Small Intestine. J. Cregan and N. J. Hayward.—p. 1356.
- Chloramphenicol in Prophylaxis of Infantile Gastro-Enteritis. R. McL. Todd and E. G. Hall.—p. 1359.
- Tests for Glycosuria: Comparison of Benedict's Test, Clinitest, and Glucotest. C. H. Gray and H. R. Millar.—p. 1361.
- Intracranial Hypotension Associated with Subdural Haematoma. J. Mac Donald Holmes.—p. 1363.
- Long-Term Prognosis in Infantile Eczema. M. J. Purdy.—p. 1366.
- Case of Male Pseudohermaphroditism. D. C. Beatty, C. J. Champ and G. I. M. Swyer.—p. 1369.
- Oral Thrombin in Treatment of Haematemesis. V. Edmunds.—p. 1371.
- Prognosis of Acute Porphyria. C. Hirson.—p. 1372.
- Incidence of Neonatal Infection in Hospital and Domiciliary Midwifery. V. M. Crosse and J. M. Mackintosh.—p. 1374.

Epidemic of Pleurodynia (Bornholm Disease).—This report is based on the experience obtained during an epidemic of pleurodynia (Bornholm disease) in Oxford from September to November, 1951. Britain experienced a high incidence of this disease from April until November, 1951. A total of 277 cases were collected in Oxford. The weekly rate rose rapidly to a peak in about four weeks and was followed by an equally rapid fall. The incidence was highest in young children. Spread within the family often occurred, but one-third of the cases were found to be single infections in a household. Spread within schools was not a feature of the epidemic. The incubation period varied from 1 to 18 days, with the majority between 2 and 5 days. Symptoms were diverse. The most useful single feature in diagnosis was the characteristic spasmodic nature of the pain. Pyrexia was usually present and severe headache was common. Other less frequent symptoms included vomiting, photophobia, shivering, sore throat, pain in the limbs or neck, dizziness, delirium, hyperesthesiae, and paresthesias. In seven cases benign meningitis occurred as a complication. Orchitis was a complication in 3 out of 30 adult males. Relapses, both early and late, were a characteristic feature of the outbreak. Viruses pathogenic for infant mice were isolated from the feces of 6 out of 17 patients examined. Attempts to isolate the virus from cerebrospinal fluid, blood, and throat washings failed. The strain of Coxsackie virus isolated was identified as belonging to Dalldorf's group B. Paired serums of the acute and convalescent periods were obtained from 13 patients and tested for the presence of neutralizing antibody against the Oxford virus. A marked rise in neutralizing power in the convalescent serum was demonstrated in eight patients, while the other five cases had a high titer of antibody in both serums. Preliminary cross-neutralization tests, using the Oxford virus, indicate that it may be a previously unrecognized antigenic type.

Isolation of Coxsackie Virus from Two Patients with Epidemic Pleurodynia.—In the summer of 1951 southeast Scotland experienced an outbreak of epidemic pleurodynia (Bornholm disease). The two children whose cases are described were not specially selected except in so far as they were quite typical of the group. The disease was characterized by the sudden onset of severe intermittent pain in the upper abdomen, a short recrudescent course ending in a complete recovery, and no evidence of an underlying pulmonary lesion. No sign of meningeal involvement was present either in the 2 children investigated or in the 16 other members of the group. A Coxsackie virus of Dalldorf's group B was isolated from the feces of these two children. A rise and fall in the titer of antibodies in the patients' serums indicated a recent infection with this virus. Epidemic pleurodynia may present a variable clinical picture, with meningitic or myalgic symptoms predominating. It is possible that different strains of virus are associated with different clinical features, and that the Oxford epidemic was caused by a virus differing from that current in Manchester or Edinburgh. It is also well known that the same virus may cause both myalgic and meningitic illness. The understanding of the epidemiology of pleurodynia, of aseptic meningitis, and of nonparalytic poliomyelitis may be expected to advance rapidly when more strains of the Coxsackie virus are isolated and their immunological characters are identified.

Bull. World Health Organ., Geneva

8:419-590 (No. 4) 1953

Toxic Hazards of Certain Pesticides to Man. J. M. Barnes.—p. 419.
Simple and Effective Device for Housefly Control with Insecticides. C. Y. Chow and E. S. Thevasagayam.—p. 491.
Development of Resistance to DDT by Anopheles Sacharovi in Greece. G. A. Livadas and G. Georgopoulos.—p. 497.
Some Ecological Observations on Houseflies in Egypt. S. Madwar and A. R. Zahar.—p. 513.
Daytime Distribution of DDT-Resistant Houseflies Inside DDT-Sprayed Buildings. G. G. Mer.—p. 521.
Techniques and Materials for Disinsectization of Aircraft. Communicable Disease Center, Public Health Service, US Department of Health. —p. 527.

Canadian Journal of Medical Sciences, Ottawa

31:127-306 (June) 1953. **Partial Index**

Variation of Hydrogen Ion Concentration of Healthy Intact Skin. W. R. Inch and A. C. Burton.—p. 127.
Metabolism of C^{14}-Urea in Rat. S. H. Zbarsky and W. D. Wright. —p. 151.
Parallel Studies of Complement and Blood Coagulation: VIII. Effect of Choline and Methionine on Changes Induced in Guinea Pigs by Injection of Carbon Tetrachloride. C. E. Rice, P. Boulanger and P. J. G. Plummer.—p. 162.
Effect of Phenylindanedione and Dicumarol in Experimental Frostbite. E. Lepp, W. Chubaty and L. B. Jaques.—p. 173.
*Poliomyelitis in Canadian Eskimos. Laboratory Studies: IV. Antigenic Typing of Virus Strains in Monkeys and in Tissue Cultures. W. Wood, E. M. Clark, F. T. Shimada and A. J. Rhodes.—p. 207.

Poliomyelitis in Canadian Eskimos.—The outbreak of poliomyelitis that occurred amongst Eskimos living in a small, far northerly settlement of Chesterfield Inlet, N. W. T., in February, 1949, was so unusual in respect of the high rate of attack and the epidemiological features that it seemed to be worth while to analyze the antigenic structure of several strains of virus isolated from patients. Five strains have now been typed, and all strains have been found to belong to type 1. They were isolated from brain and cord, stool, or throat washings. From the results of the typing tests, it may be concluded that this outbreak was caused by a single antigenic type, the type responsible for the majority of epidemics of poliomyelitis on the North American continent. The peculiar characteristics of the Chesterfield Inlet outbreak cannot be attributed to the emergence of an unusual antigenic type of virus, but rather to the operation of some factor that affected the susceptibility of the Eskimos to invasion by poliomyelitis virus. In this connection Sabin has suggested that the high paralytic attack rate may have been a reflection of the genetic constitution of the inbred population. The typing of the Eskimo strains of virus presented difficulties, because they were of a low degree of pathogenicity to monkeys by the cerebral route, but the technique of tissue culture proved particularly suitable. Its advantages include speed and low cost. Furthermore, it can be carried out in laboratories where facilities for the care of monkeys are limited.

Canadian Journal of Public Health, Toronto

44:111-152 (April) 1953. **Partial Index**

Fluorine and Dental Caries. C. I. Coburn and R. G. Knipe.—p. 111.
Control of Domestic Flies on a District Basis in Alberta. J. H. Brown, M. H. O'Meara, M. L. Friend and H. Dean.—p. 117.
*Incidence of Trichinosis in the Vancouver Area. T. K. R. Bourns. —p. 134.
Salmonella Types in Canada. E. T. Bynoes, W. R. A. Bailey and R. Laidley.—p. 137.

Trichinosis: Examination of Human Diaphragms.—Bourns studied diaphragms of human cadavers collected at three Vancouver hospitals. These tissues were examined by direct compression and digestion techniques. The compression method consisted of an examination of 1 gm. of tissue, which was teased apart, squeezed between glass plates and inspected under the microscope. The second technique involved digestion of 10 gm. of chopped muscle in 0.2% solution of pepsin in 0.01 molar hydrochloric acid, and subsequent use of a Baermann apparatus. In each case, the bottom 30 cc. of digest residue was drawn off and examined under the microscope. Of 400 diaphragm specimens examined, 16 or 4% were found to contain Trichinella cysts. This figure remained consistent throughout the survey inasmuch as the successive groups of 100 contained 4, 3, 4, and 5 positive tissues, respectively. The author stresses the desirability of a control program involving public education with reference to the cooking of pork, and secondly, a program of close inspection of hog feeding and rodent control.

Die Medizinische, Stuttgart

23:767-800 (June 6) 1953. **Partial Index**

*The Lipoma Syndrome in the Sacral Region: Contribution to Pathogenesis of Backache. J. Schmidt-Voigt.—p. 772.
New Experiences with the Clinical Use of Corpuscular Blood Constituents in Local Therapy. H. C. Friederich, G. Riedel and H. Ruther.—p. 776.
Cure of a "Rheumatic" Disease by Vitamins A Plus D. H. Starck. —p. 780.
Experiences with Administration of Glutamic Acid in Feebleminded Children. H. Tschakert.—p. 781.
Causal and Symptomatic Treatment of Dysmenorrhea. O. Brunner. —p. 785.

Lipoma Syndrome in Sacral Region: Pathogenesis of Backache.—Complaints of backache are frequent, but treatment is often unsatisfactory because the etiology is obscure in many cases. This report is concerned with the pathogenesis and differentiation of a type of backache that in Germany so far has not been recognized as a separate entity. The essential characteristic of this type is the presence of nodular lipomas in the sacral region. The disorder has been designated as lipoma syndrome in the sacral region, the lipoma being the most characteristic sign, although there are a number of other symptoms. The nodular lipomas can be detected by careful palpation. They may even be visible as cherry sized protuberances. Their consistency is dense but elastic. Pain usually increases gradually, and is almost never limited to the region of the nodules, but radiates into the back and even into the shoulder and leg. The pain may be drawing, piercing, or tearing in type. Certain movements, particularly bending or turning in the hips, intensifies the pain. Housewives often complain that the pain is greater on wash-days or on days they do ironing or similar tasks. The nodules are usually found alongside of the lateral limits of the rhomboid of Michaelis. This type of backache is rather frequent. Among 150 patients who complained of backache, there were 72 in whom lipomas in the sacral region seemed to be the only cause; 57 of the 72 were women. Most of them were between the third and fifth decade. The differential diagnosis must consider sciatica, prolapse of a vertebral disk, spondylosis, lumbago, muscle rheumatism, fibrositis, and renal disease. Several typical case histories are described. Measures like inunction, application of heat, baths, and irradiation with short or ultrasonic waves all failed. Injections of 1% procaine hydrochloride solution or of similar drugs proved more effective. Injections are made underneath the lipomas, two or three times per week. If a total of six injections has produced no improvement, surgical treatment consisting of removal of the nodule is advisable.

Gazzetta Medica Italiana, Milan

112:125-154 (May) 1953. Partial Index

*Estrogen Substances in Treatment of Carcinoma of Prostate Gland. A. Francese.—p. 138.
*Phosphorus Combined with Vitamin B_1 in Therapy. G. Ronconi.—p. 144.

Estromenin in Treatment of Prostate Carcinoma.—Estromenin (4,4-dimethoxy-α-α'-diethylstilbene) was used to treat 30 patients with carcinoma of the prostate gland. At first one injection of the preparation was given every three days or every five days until the patient's breasts had become tense. Three to four injections were, as a rule, sufficient to achieve this effect. This tenseness was maintained thereafter by administering the preparation at an interval of 8, 10, 15 or even more days. An optimum concentration of Estromenin has been reached when the patient's breasts have become tense. This concentration inhibits the growing process of the carcinoma without causing side-effects. Some of the patients were treated for as long as 2½ years. The general condition of many was improved, urinary frequency and dysuria diminished, and a more elastic consistency of the prostate gland was obtained. Five patients in whom metastases had developed to other organs died during the treatment. Side-effects were always very mild and consisted mainly of nausea. A comparative study revealed that this preparation gives better and longer-lasting results than the common estrogens.

Phosphorus Combined with Vitamin B_1 in Therapy.—Phosphorus in a form easy to be assimilated (Benzofosfan I.C.I.) was combined with vitamin B_1 and was given to nine patients by either the intramuscular, the intravenous, or the oral route. This combination was the only medication for one asthenic and debilitated patient, who could not maintain an upright posture because of a pronounced imbalance secondary to a trauma of the skull; one patient with gastritis due to hypoacidity; two patients convalescing from a prolonged bronchopneumonia and pleurobronchopneumonia; one patient with hypochromic anemia who was debilitated from overwork; and one patient with pyloric stenosis secondary to an ulcer. The last-named patient was not benefited from the therapy and had to undergo surgery. All the others improved and regained appetite and strength. The patient who could not stand up was able to walk after 15 days of therapy. She had received 20 intravenous injections of the preparation. Phosphorus combined with vitamin B_1 was given as an adjuvant to one patient with dyskinetic colitis and neurovegetative dystonia; one patient with chronic myocarditis who was in very poor general condition; and one patient with hyperthyroidism. The therapy benefited these three patients also. The preparation was well tolerated and there were no side-effects.

Journal of Hygiene, London

51:145-292 (June) 1953. Partial Index

Infective Hepatitis and Arsenotherapy Hepatitis as it Occurred Amongst Naval Personnel in Portsmouth During 1939-45 War. F. P. Ellis.—p. 145.
Incidence and Importance of Streptococci in an Institution for Rheumatic Children. S. A. Doxiadis and S. M. Stewart.—p. 157.
Statistical Concepts in Theory of Bacterial Mutation. P. Armitage.—p. 162.
Influence of Atmospheric Drying on Survival of Wound Flora. E. J. L. Lowbury and J. Fox.—p. 203.
*Second Attacks of Typhoid Fever. D. E. Marmion, G. R. E. Naylor and I. O. Stewart.—p. 260.

Second Attacks of Typhoid.—The impression is prevalent that an attack of typhoid confers a high degree of immunity, although recurrences may sometimes occur. Repeated exposure to infection is not common in modern civilized communities, and this may partly explain the low incidence of second attacks. The authors describe two outbreaks that occurred in a Royal Air Force unit in the Suez Canal Zone of Egypt. The population exposed in the outbreaks had been protected by paratyphoid (T. A. B.) vaccine. The first outbreak occurred in April and May, 1950. Out of 657 men at risk 84 contracted typhoid. The causative organism was Salmonella typhi of phage type J. It was considered likely that a native cook, who was found to be a urinary excretor of Salm. typhi, was the cause of the outbreak, because it ceased about 10 days after his removal from duty. However, the organism isolated from his urine was rough and could not be phage-typed. The second outbreak occurred during July and August, 1950. There were 688 men at risk of whom 235 contracted typhoid fever. The causative organism was of phage type E 1. This outbreak was explosive in character and showed two waves. Epidemiological evidence indicated that the food eaten at midday on July 12 was the cause of the primary wave of cases. Two foodhandlers who were found to be excreting the organism during the incubation period before they developed the disease were considered to be the probable source of infection of the secondary wave of cases. The outbreak ceased 10 days after their removal from duty. Of the men who were infected in the first outbreak 54 were exposed again in the second outbreak, and 11 of them contracted typhoid again. Thirty-seven of the 54 had received chloramphenicol therapy in their first attack, and 6 of these were reinfected in the second outbreak; of the 17 who did not receive chloramphenicol 5 were reinfected. The authors feel that the specific immunity conferred by an attack of typhoid is of no more than moderate degree and, in the event of reexposure to infection, recurrences are not very unusual.

Journal Obst. & Gynaec. Brit. Empire, Manchester

60:301-444 (June) 1953. Partial Index

Blood-Flow Estimations as Indices of Mammary Activity. V. R. Pickles.—p. 301.
Assessment of Value of Chassar Moir Graphs in Radiological Investigation of Cephalo-Pelvic Disproportion. J. P. Erskine, G. Kelham and P. P. Wium.—p. 312.
*Unusual Case of Twins: Case Report. B. Williams and G. Cummings.—p. 319.
Electronic Method for Intra-Uterine Measurements of Pressure During Labour. A. Ingelman-Sundberg, L. Lindgren and T. Ljungström.—p. 322.
Rotation of Foetal Head in Occipito-Posterior Positions of Vertex. W. Hunter.—p. 327.
Oxygen and Carbon Dioxide Content of Umbilical Artery and Vein Blood in Toxaemic and Normal Pregnancy. C. A. B. Clemetson and J. Churchman.—p. 335.
*Place of Cervical Smears in Diagnosis of Early Cervical Cancer. A. F. Anderson, M. P. S. Grant, R. M. McBryde and M. K. Cockburn.—p. 345.
Latent Cancer of Cervix. A. F. Anderson.—p. 353.
Observations on Progesterone-Oestrogen Withdrawal Bleeding and Hogben Test in Diagnosis of Pregnancy. G. D. Matthew and B. M. Hobson.—p. 363.
Observations on Lymph Node Involvement in Carcinoma of Cervix. C. P. Cherry, A. Glückmann, R. Dearing and S. Way.—p. 368.
Relaxant Drugs in Obstetric Anaesthesia. B. E. Thomas and J. Gibson.—p. 378.
Some Aspects of Biological Causality. P. Malpas.—p. 384.
*Vomiting of Pregnancy: Allergic Factor. A. F. Youssef and G. S. Barsoum.—p. 388.
Prognosis of Dysgerminoma of Ovary, with Report of Three Cases. M. Dunster and D. Bennett.—p. 402.

An Unusual Case of Twins.—The 24-year-old woman whose case is presented had had two previous full-term pregnancies in 1948 and 1951. In July, 1952, vaginal examination revealed that the uterus was enlarged to the size of an eight weeks pregnancy and was deflected to the right by a cystic swelling in the left fornix approximately the same size as the uterus itself. The estimated date of confinement was Feb. 15, 1953. On Sept. 15, 1952, two masses of equal size were present. The diagnosis of twin pregnancy in a double uterus was made. The pregnancy continued uneventfully until Dec. 14, 1952, when the woman was admitted to hospital complaining of backache, and a small amount of clear amniotic fluid was draining from the vagina. Examination showed that the baby in the right uterus was presenting in vertex position and was engaging in the brim of the pelvis; that in the left uterus was in breech position. On Dec. 16, 1952, she commenced to have regular, painful uterine contractions. One and a half hours later a living premature male baby weighing 3 lb. 10¾ oz. (1,591 gm.) was delivered. The placenta was immediately expelled. Vaginal examination, a few minutes after the birth of the placenta, revealed a second cervix, hitherto not felt. An intact amniotic sac was present and the fetus, which at the onset of labor was in breech position, had undergone spontaneous version and was now presenting as a vertex. After 24 hours in the labor ward, there were no further uterine contractions, the fetal heart sounds were normal, and the patient was transferred to the ward. Lactation did not occur. Involution of the right uterus proceeded normally. On Feb. 10, 56 days after delivery of the first baby, the second baby was born after 15 minutes of labor pain. The baby was normal, weighing 5 lb. 15¾ oz. (2,720 gm.). Lactation was normally established. The time interval between the deliveries, 56 days, is claimed to be a world record. Several other unusual aspects of this case are discussed.

Cervical Smears in Diagnosis of Cancer.—The series of 3,000 smears reviewed here represents 3,000 patients "screened" for cancer. For the purpose of experience 139 more were examined from clinically obvious cases of cancer and treated cases of cancer. Some of the 3,000 had several smears taken but the first report was the one used in the analysis of the results. If the first report was incorrect, even if subsequent ones were correct, it was regarded as an error and was listed as a false negative or positive. The only exceptions were occasional cases in which the first smear was atypical with possible abnormal changes, and further smears were requested. Thirty-three unsuspected cervical cancers were discovered, an incidence of 1.1%. Of 50 early cancers of the cervix encountered, 5 were missed, 4 of these in the first 1,000 and only one in the next 2,000 cases. Only one false positive report was given for cervical cancer in the last 2,000 cases. Only one unsuspected endometrial cancer was found; all the other patients would have been subjected to curettage irrespective of the report on the smear. Of 21 endometrial cancers, 12 were missed, an error of 57%. It must be emphasized, however, that it was cervical cancer that this work was designed to discover. Five patients only, of the last 2,000, had suspicious smears in which the final decision has not yet been made; five others had smears short of suspicion and are being followed. Accuracy of interpretation can be gained by long and careful study, but the results indicate that the study of cervical smears is helpful in the diagnosis of early carcinoma of the cervix. The clinician needs little assistance in the diagnosis of endometrial cancer, and its picture is difficult to interpret in smears, except in the cases in which the far more accurate curettage has already been considered essential. Cytological interpretation is most important in the discovery of early cancer of the cervix, before it is clinically obvious. Eighty per cent of these unsuspected cases were of the preinvasive or latent type, now more or less generally accepted as true cancer. In spite of the other 20% being early invasive cancers the authors doubt that the use of cervical smears as a routine gynecological outpatient procedure would be justified, were it not for the preinvasive or latent lesion.

Vomiting of Pregnancy: The Allergic Factor.—The relationship of adrenocortical insufficiency to allergy is outlined. This relationship is particularly important in the causation of hyperemesis gravidarum. In August, 1951, the authors accidentally discovered that the administration of the synthetic antihistamine compound antazoline (Antistine) to two patients with hyperemesis gravidarum, produced dramatic improvement, although adrenal cortex extract had had no effect. The authors studied the effect of antazoline on women with pernicious vomiting of pregnancy. In 5 of 28 women studied hospitalization, suggestion, and reassurance were sufficient; in these cases, the vomiting was presumably of neurotic origin. In 17 patients in whom the condition either showed only slight improvement on hospitalization, reassurance and dietetic regulation, remained stationary or got worse, complete cure was accomplished either by antazoline alone or when followed by desoxycorticosterone acetate for three days. In some of these 17 cases later recurrences were again controlled by the same treatment. In the remaining six women neither a neurotic nor an allergic cause could be found. The authors emphasize that the combination of antiallergic drugs with adrenal cortex extract gives dramatic results in the treatment of allergic hyperemesis.

Journal of Pathology and Bacteriology, Edinburgh

65:279-646 (April) 1953. **Partial Index**

Histological Changes in Striped Muscles in Myasthenia Gravis. D. S. Russell.—p. 279.
Renal Osteodystrophy. A. E. Claireaux.—p. 291.
Arteriosclerosis in Lower Limbs. R. Rodda.—p. 315.
Acute Arterial Necrosis in Lungs. J. D. Hicks.—p. 333.
Papillary Fibro-Elastic Hamartomas of Heart Valves. C. Raeburn.—p. 371.
Generalised Cytomegalic Inclusion Disease in New-Born Infant. W. S. Alexander.—p. 375.
An Unusual Form of Pulmonary Calcification: "Microlithiasis Alveolaris Pulmonum." M. E. Sharp and E. A. Danino.—p. 389.
*Malignant Hypertension: Study of 51 Cases. R. H. Heptinstall.—p. 423.
Factors Involved in Production of Acute Arterial Lesions in Rabbits with Experimental Renal Hypertension. H. A. Fleming.—p. 441.
Case of True Red-Cell Aplastic Anaemia Successfully Treated with Riboflavin. H. Foy and A. Kondi.—p. 559.
Intrathecal Tuberculin Reaction. J. Swithinbank, H. V. Smith and R. L. Vollum.—p. 565.

Malignant Hypertension.—Heptinstall gives an account of the varied pathological conditions encountered at autopsy in a consecutive series of 51 cases of clinical malignant hypertension. No selection of cases was made, except that only those that had shown a considerable degree of hypertension and papilledema in life were included. The condition was usually associated with terminal renal failure, but in certain cases a cerebral or cardiovascular accident anticipated this event. Twenty-five of the 51 patients had essential hypertension, 8 had chronic pyelonephritis, 10 had chronic glomerulonephritis, 1 had polycystic kidneys, 3 had toxemia of pregnancy, and 4 had polyarteritis nodosa. None of the patients with essential hypertension was less than 35 years of age, patients in the younger age groups all having secondary hypertension. The blood pressure was uniformly high in all groups, the diastolic pressure being almost invariably over 130 mm. Hg. Vascular necrosis was present in those with secondary as well as in those with essential hypertension. Some cases showed vascular necrosis in the absence of impairment of renal function. Thus renal insufficiency is not a necessary factor in the production of these necrotic lesions. The severe degree of hypertension appears to be the cause of the common picture of vascular necrosis in the various groups described, irrespective of the way in which the hypertension was brought about. The fact that a variety of conditions known to cause heightened blood pressure can produce the clinical picture of malignant hypertension with vascular necrosis is evidence in favor of the theory that *the difference between the benign and malignant forms of hypertension is one of degree of* hypertension attained.

Lancet, London

1:1211-1260 (June 20) 1953

Chemicals and Food: Reconsideration. E. C. Dodds.—p. 1211.
Management of Anaesthesia of Severely Burned Patient. J. R. Rook.—p. 1214.
Treatment of Bulbar Poliomyelitis in Children. N. M. Jacoby.—p. 1218.
*What Is Ulcerative Colitis? B. N. Brooke.—p. 1220.
Prevention of Postoperative Chest Complications. J. Davidson.—p. 1225.
Liquid Air for Casualties in Mines: East Midland Life Sustainer. A. J. G. Coulshed and J. T. Watkins.—p. 1226.
Treatment of Rheumatoid Arthritis with Phenylbutazone. D. Freeland, G. Storey and M. Thompson.—p. 1227.
Fatal Agranulocytosis and Gastric Ulceration Due to Phenylbutazone. N. V. Dilling.—p. 1230.

What Is Ulcerative Colitis?—Brooke discusses the reasons why the cause of ulcerative colitis has never been completely explained. *The colon can be affected by three distinct conditions: ulcerative colitis, ileocolitis, and proctosigmoiditis, all of which are customarily diagnosed as "ulcerative colitis."* The author suggests that ulcerative colitis is not a specific disease but a pathological state. The causes are to be looked for in numerous conditions that initiate in the colon the degenerative process that is ulcerative colitis. If the original trauma is severe, the case will pass directly into one of ulcerative colitis with continuous, though possibly abated, diarrhea without remissions. If healing with degenerated epithelium takes place, a latent interval, or "remission" will occur between the initial injury to the colon and the onset of ulcerative colitis; this form will be marked at first by remissions but later is likely to become chronic, with persistent diarrhea. In many instances the colon heals perfectly after damage by infection, stress, chemical agents, or whatever the cause may be; the patient is then spared from ulcerative colitis. The ileum is involved in ulcerative colitis as a secondary phenomenon, either when the ileocecal valve has become incompetent or, after operations that include an ileostomy, because of technical defects at the ileal stoma. Commenting on the relationship between regional ileitis (Crohn's disease) and ulcerative colitis, the author states that although the ulceration in regional ileitis may be widespread throughout the colon, it in no way resembles that of ulcerative colitis. Furthermore, regional ileitis more commonly attacks the ileum, and it has been stated that the association of ileal lesions with ulcerative colitis is only incidental. It therefore seems unlikely that the two conditions are of the same origin; their only similarity is that in regional ileitis the colon may become ulcerated and the diarrhea can be so severe that it simulates ulcerative colitis.

Revista Chilena de Pediatría, Santiago

24:67-106 (March) 1953. **Partial Index**

Diagnostic Value of Pneumoperitoneum in Children. R. Infante Yavar and M. Neira Salgado.—p. 67.
*Acute Hepatitis in Children. H. Niemeyer, O. Danus and O. Undurraga. —p. 82.
Infections by Coxsackie Virus. M. Rodríguez Leiva.—p. 91.

Acute Hepatitis in Children.—In a period of three years, 65 children with acute hepatitis were observed in a pediatric hospital of Santiago, Chile. The majority of the patients were between the ages of 1 and 4 years. In about half the number there was a history of contagion from contact with patients with virus hepatitis, 20 or 70 days in the past, or by transfusion 70 or 100 days prior to the appearance of the symptoms. The preicteric stage was very marked in 61 patients. It lasted from two to four days, with symptoms of a general infection, anorexia, weakness, fever and gastrointestinal disorders. The icteric stage was manifested by bile pigments in the urine, acholic feces, and the appearance of jaundice in the conjunctivas and on the skin. Jaundice was moderate in the majority of cases and acute in some. Predominant symptoms in this stage were those of marked hepatomegaly in all the 65 patients, jaundice in 64, and splenomegaly in 13 patients. There was a case of the nonicteric type in which the clinical diagnosis was confirmed by the presence of great hepatomegaly and bilirubinemia, the results of the tests of flocculation and of the biopsy of the liver. In all the patients, hepatomegaly persisted through the icteric and posticteric stages and regressed very slowly. A biopsy of the liver was made in some of the patients in whom the structure was of very hard consistency. It showed changes which varied from moderate granular degeneration to early fibrosis of the liver.

Semaine des Hôpitaux de Paris

29:1849-1890 (June 6) 1953

*Use of Massive Doses of Vitamin B_{12} in Neurology (1,000 Micrograms per Injection). J. Lereboullet and R. Pluvinage.—p. 1849.
Rheumatic Conditions of the Shoulder. S. de Sèze, J. Debeyre and A. Denis.—p. 1855.
*Mechanical Endobronchial Method of Increasing Bacillary Content of Sputum in Tuberculosis Not Bacteriologically Evident. M. Fourestier and J. Marsault.—p. 1871.

Massive Doses of Vitamin B_{12} in Neurological Conditions.—Appropriate vitamins given in small doses have a specific effect on deficiency states; given in much larger doses, they have proved curative in many conditions in which no known deficiency exists. Increasing supplies of vitamin B_{12} have made possible its use in larger doses with consequent extension of its sphere of action. The blood picture in pernicious anemia was not only improved more rapidly and effectively by the use of large doses of this vitamin but regression of the nervous lesions was also secured even in bedridden patients in whom they had apparently reached an irreversible stage. Equally significant results have been obtained in other forms of neurological disturbance, such as certain types of multiple sclerosis, the polyneuritic and psychic complications of alcoholism, syndromes in the subacute superior polioencephalitic group, and essential facial neuralgia. Vitamin B_{12} is apparently entirely nontoxic and no complications resulting from its use even in doses of 1,000 mcg. have yet been reported. Its basic antipernicious effect probably comes from direct intervention in the biochemical processes of red cell maturation; its other effects are presumably the result of indirect or substitutive participation in the enzymatic processes, especially those involving the functioning of the nervous system.

Endobronchial Method of Increasing Bacillary Content of Sputum.—Diagnostic difficulties caused by the inability of hospital and dispensary laboratories to meet all the requests received for cultures and inoculations in doubtful cases of tuberculosis led to the development of an endobronchial method of increasing the bacillary content of sputum. The suspected area is examined bronchoscopically after anesthesia of the rhinopharynx, larynx, and trachea; interrupted aspiration (30 seconds in all; 10 seconds at a time) is then carried out through a flexible rubber cannula introduced as far as possible into the lobe or the segment under visual control and without any additional local anesthesia; and 5 cc. of isotonic sodium chloride solution or distilled water is injected into the bronchus through the cannula to produce a mild irritation (indicated by the patient's coughing). The effect of the irritation is to remove a possible bronchial obstruction and to cause a minimal focal reaction that results in the easier discharge of bacilli from the lesion through the bronchial passages. Bacteriological examination of all sputum spontaneously produced in the four days following the procedure will furnish proof of tuberculous disease in more than 50% of the patients whose response to the usual tests is negative. The procedure, known as "four day K.B.," is perfectly safe; the patients are usually in excellent condition, without functional respiratory disturbances, and tolerate bronchoscopy perfectly.

South African Medical Journal, Cape Town

27:389-412 (May 9) 1953. **Partial Index**

Long-Term Anticoagulant Therapy in Myocardial Infarction: Preliminary Report. B. Goldberg and M. M. Suzman.—p. 389.
Psychosomatic Aspects of Ulcerative Colitis. L. A. Hersov.—p. 392.
*Bornholm Disease, Pleurodynia or Epidemic Myalgia: Outbreak in the Transvaal Associated with Coxsackie Virus Infection. I. M. Patz, V. Measroch and J. Gear.—p. 397.
*Hypotensive Anaesthesia in Plastic Surgery: Report on 500 Cases. H. Bentel and J. Penn.—p. 405.
ACTH and Epileptiform Seizures in Childhood: Preliminary Report. A. C. Watt and S. Jacobson.—p. 407.

Epidemic Pleurodynia and Coxsackie Virus Infection.—The author reports an epidemic of an illness characterized by signs and symptoms of epidemic pleurodynia (Bornholm disease), which occurred in Middelburg, Transvaal, during the latter half of January and the first week of February, 1952. The epidemic involved children living in a school hostel. Of 180 children in the hostel, 40 became ill. The onset was sudden; most of the children had acute epigastric pain and tenderness often associated with severe headache, nausea, vomiting, and fever. The fever lasted one to three days. In one-third of the cases the illness recurred and in one-tenth of the cases a second relapse occurred. Abdominal signs and symptoms predominated. In five adults chest symptoms were more prominent. Laboratory studies revealed that this illness was associated with an infection of a Coxsackie group B type 4 virus. In addition to being pathogenic to and producing characteristic lesions in baby mice, this virus was also pathogenic to adult mice, causing in some an extensive destruction and inflammation of the pancreas. Involvement of the pancreas in human cases is possible, but no studies of pancreatic involvement were made in this outbreak. It is now becoming clear that outbreaks of epidemic pleurodynia are caused by infection with Coxsackie virus, particularly by strains of the B group.

Hypotensive Anesthesia in Plastic Surgery.—About one year ago these authors had reported their experience with hypotensive anesthesia in 100 operations, and now they report on

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a total of 500 cases. Vomiting occurred in less than 10% of the cases, possibly because hexamethonium retards the motility and secretomotor activity of the stomach. Very little ether is required once hypotension has been produced. The average postoperative recovery period was 10 to 15 minutes after completion of the operation. After the patient has been put on the table it is tilted into a reverse Trendelenburg position of 10 to 15 degrees in older patients, and up to 35 degrees in younger ones. A Gordh needle is then inserted into a vein and the hexamethonium injected. The dose varied from 40 to 80 mg. in young, healthy adults, to 10 to 25 mg. in the elderly or hypertensive patients. The authors discuss the use of intubation, 100% oxygen and other measures important in this form of anesthesia. Other reports on hypotensive anesthesia state that a systolic blood pressure of 70 mm. Hg is adequate from the point of view of the surgeon. This was too high in this series of cases, possibly due to the altitude of Johannesburg (5,800 ft.). With hexamethonium, the optimum blood pressure level in Johannesburg was found to be approximately 60 mm. Hg in hypertensive and older patients, and 50 mm. Hg in young, healthy adults. The method is used only on patients regarded as being normal anesthetic risks. Controlled hypotension was not used for longer than 1½ hours. When an operation required longer anesthesia, controlled hypotension was utilized only for the essential stage in that operation, after which the pressure was allowed to rise to 80 or 90 mm. Hg. Almost every type of plastic operation "above the belt" has been performed under hypotensive anesthesia. It ensured an even, rapid technique, reduced trauma and afforded a smoother convalescence with a minimum of edema and pain in the operative field. If patients are carefully selected, and if adequate anesthesia with full oxygenation is guaranteed, and if cooperation between surgeon, anesthetist and nursing staff exists, the hypotensive anesthesia is a most important advance in plastic surgery.

Thoraxchirurgie, Stuttgart

1:1-100 (April) 1953. Partial Index

Treatment of Congenital Atresia of Esophagus by Direct Extrapleural End-to-End Anastomosis. E. Derra and P. Ganz.—p. 16.
Stenosis of Trachea and Esophagus Caused by Congenital Malformation of the Mediastinal Vessels: Treatment. H. Krauss.—p. 25.
Pulmonary Decortication in Tuberculosis. R. Zenker.—p. 40.
*Correcting Scoliosis by Plastic Operations on the Ribs. W. Felix.—p. 48.
Various Forms of Funnel Chest and Their Surgical Treatment. G. Brandt.—p. 57.
Partial Oxygen Pressure of the Arterial Blood in Surgical Disease of the Lungs. T.-O. Lindenschmidt.—p. 65.

Correcting Scoliosis by Plastic Spreading of Ribs.—Plastic operations on the ribs can be employed, according to Felix, in the treatment of scoliosis. Sauerbruch and his co-workers resorted to rib plication by means of wires or metal bands on the convex side of the curvature and performed a simple paravertebral division of the ribs on the concave side. The double intervention was usually done in two stages. The early results of this method were satisfactory, but the late results were not. The author used this method in 16 young patients with scoliosis and found that the initial improvement disappeared at a later date. He continued to perform plication of the ribs on the convex side of the scoliotic curvature, but tried to make it more secure by using double wires for each pair of ribs, and by tying the ribs closer with clamps. On the concave side of the scoliotic curvature Felix replaced Sauerbruch's simple paravertebral rib division by a spreading of the ribs. This spreading on the concave side is the exact opposite of the plication on the convex side. The ribs are spread apart in the paravertebral region by hook traction, and the spreading is maintained by implanting struts of bone chips into the rib interspaces. The rib plication plastic on the convex side and the spreading of the ribs with the aid of bone struts are complementary in straightening the scoliotic curvature of the vertebral column. Comparing the results obtained in 7 patients in whom this new procedure was employed with those in the previous 16 cases revealed that the combined use of plication and spreading is superior.

Tórax, Montevideo

2:3-106 (March) 1953. Partial Index

Pathology and Surgical Treatment of Hydatid Cyst of Lung. V. Pérez Fontana.—p. 7.
*Frequency of Cancer of Lung in Private Practice. G. Sayago and J. B. Rocca.—p. 47.
Chiari's Syndrome Due to Bronchial Neoplasm. M. Arcos Pérez, D. Tomalino and O. Muras.—p. 89.

Cancer of Lung.—The authors present analysis of 6,269 private patients who had been observed for the past 25 years. There were 2,013 patients between the ages of 33 and above 70 years. In this group, 57 (2.8%) had cancer of the lung and 10 had pulmonary metastases from cancer of the breast, the uterus, the stomach, or the testis. Patients with metastatic cancer are not included in this report. There were 56 men and 1 woman with pulmonary cancer, most of them between the ages of 33 and 50 years. The most frequent symptoms, in order of frequency, were cough, expectoration, bloody sputum or frank hemoptysis, fever, loss of weight, and chest or shoulder pain. The average duration of the symptoms before the first consultation was 10 months. Roentgen examination of the chest showed the tumor shadow in the right lung in 32 patients, in the left lung in 24, and in both lungs in one patient. In one of the patients the cancer of the lung complicated pulmonary tuberculosis. A definite diagnosis was made on the basis of clinical symptoms and roentgen signs of the disease in 21 patients. In the remaining 36 patients suspected cancer was confirmed by bronchoscopy in 17 cases (in 15 of which the bronchoscopic biopsy was also positive), by sputum cytologic study in 5 cases, by the roentgen picture of cancerous invasion of ribs in 3 cases, by a positive biopsy of a supraclavicular lymph node in 5 and of a thoracic node in one case, by microscopic study of lung tissue removed surgically in 3 cases and by the necropsies in 2. The authors direct attention to the fact that symptomatic or clinically apparent cancer corresponds to the stages of the disease. In 24 of their patients, the symptoms had lasted between one and six months and the disease was in an advanced stage. It appears advisable to practice systematic and periodical roentgen examintions of the chest in large groups of apparently healthy people to obtain an early diagnosis and surgical treatment of the condition in the preclinical phase.

Ugeskrift for Laeger, Copenhagen

115:801-830 (May 21) 1953

*Control of Anticoagulation Therapy by Owren's Method of Quantitative Prothrombin-Proconvertin Determination. E. Lund.—p. 801.
*Long-Term Dicumarol Therapy of Coronary Thrombosis and Other Thromboembolic Disorders. E. Lund.—p. 805.
Treatment of Pernicious Anemia with Small Amounts of Pylorus Mucosa and Vitamin B_{12} and with New Combination Preparation. E. Meulengracht.—p. 809.

Control of Anticoagulation Therapy by Owren's Method of Quantitative Prothrombin-Proconvertin Determination.—Anticoagulation therapy of thromboembolic diseases is mainly preventive. The important indications for the treatment are acute coronary thrombosis, peripheral thrombophlebitis, and pulmonary embolism. One hundred patients with thromboembolic diseases, of whom 45 had coronary thrombosis, were treated with anticoagulants (heparin, bishydroxycoumarin [Dicumarol], in a few cases ethyl biscoumacetate [Tromexan ethyl acetate]) with control of the coagulating capacity of the blood by means of Owren's method for quantitative prothrombin-proconvertin determination, which Lund finds well adapted for the purpose. No thromboembolic complications occurred among the patients with coronary thrombosis. Hemorrhagic complications appeared in five cases, wholly or partly due to the reduction of the prothrombin-proconvertin content of the blood by the bishydroxycoumarin; two of these patients died. There were eight fatal cases in all: four with myocardial infarction, including the case complicated with pericardial hemorrhage, one case of coronary sclerosis and one of aspiration pneumonia, the second fatal case with hemorrhagic complications, and two cases with thromboembolic complications after withdrawal of the bishydroxycoumarin therapy.

Long-Term Bishydroxycoumarin Therapy of Coronary Thrombosis and Other Thromboembolic Disorders.—Sixteen of the patients with acute coronary thrombosis reported on in Lund's preceding article were treated on an ambulant basis with bishydroxycoumarin (Dicumarol) for from 2 to 17 months after discharge. No further thrombosis or thromboembolic complications occurred during the treatment. One patient died after treatment ended. Two of three patients with thrombophlebitis in the lower extremities were free from symptoms during bishydroxycoumarin treatment for from 2 to 11 months; the third patient had three recurrences of his thrombophlebitis during the eight months' continuous treatment. In 4 of the 19 cases there were major hemorrhagic complications, none of which were fatal. Lund concludes that ambulant bishydroxycoumarin treatment of thromboembolic diseases for months is possible when patients are kept under close control, with employment of a reliable method for determination of the prothrombin-proconvertin content of the blood, but application of the treatment in the general practice is not advised. The patients must adhere to the prescribed dose of bishydroxycoumarin and must be informed of the danger of spontaneous or traumatic hemorrhage. Even if these conditions are fulfilled, a certain danger of grave hemorrhage is present.

Zeitschrift für Kinderheilkunde, Heidelberg

72:577-692 (No. 6) 1953. **Partial Index**

Prophylaxis and Morbidity of Rickets. T. F. Hellbrügge and R. Hatz.—p. 577.
*Toxoplasmic Encephalitis. K. Weisse and W. Krücke.—p. 597.
Problem of Etiological Significance of Certain Serologic Coli Types in Enteritis of Infants; Communication II. P. Krepler and W. Zischka.—p. 625.
Chemical Determination of Vitamin D in Milk Subjected to Ultraviolet Irradiation. O. Hövels.—p. 646.

Toxoplasma Encephalitis.—The authors report on Toxoplasma encephalitis in a 53-year-old woman and in six children. The woman had a sudden attack of vertigo, vomiting, spastic paresis of the right arm, and increasing stupor; symptoms of a brain tumor were present at the time of death. Postmortem microscopic studies revealed disseminated encephalitis with extensive small and large granulomas of the medulla and the cortex, with predilection for the subcortical medulla. There were extensive recent necroses without a granulation wall, but with a high degree of inflammatory edema, particularly of the medulla. In the marginal zones of the necroses there were numerous isolated Toxoplasma organisms and occasional pseudocysts. There were numerous isolated parasites in the small granulomas. A 9-week-old infant presented the pathological picture of hemorrhagic, necrotizing encephalitis with calcifications and numerous isolated Toxoplasma organisms and occasional pseudocysts. A 4-week-old infant died of progressive dystrophy; no clinical diagnosis had been made and a cerebral process had not been suspected. The pathological picture was that of a necrotizing encephalomyelitis with numerous necroses in the deep layers of the medulla and considerable pseudocalcifications on the margins. Only occasional intracellular parasites were observed. In the other four children a severe internal hydrocephalus resulted from the intrauterine-acquired Toxoplasma encephalitis, and in one living patient the parasites were demonstrated in the cerebrospinal fluid on culture and in the peritoneal exudate of white mice. In six of the seven patients diagnosis of Toxoplasma encephalitis was established by the demonstration of the parasites. The case of the adult patient with its eight week course and its pathological picture does not correspond to previously reported observations on Toxoplasma encephalitis. The occurrence of Toxoplasma encephalitis does not depend on age; the congenital types occupy a unique position, although they need not differ from the acquired type of the disease in histopathological changes and localization. The following classification, independent of the age of the patient, is suggested: (1) the meningoencephalitis form with ependymitis and frequently with internal hydrocephalus; (2) the metastatic, focal encephalitis, and (3) the large Toxoplasma granuloma, as in the authors' adult patient. Three characteristic phases of the morphological picture may be distinguished: (1) serous or hemorrhagic exudation through damage to the vascular wall of the arteries and the veins, with increased permeability and changes in the wall resulting in occlusion of the lumen through mobilization and proliferation of subendothelial reticular cells, or thrombosis; (2) inflammatory reaction with proliferation of mesenchymal and ectodermal supporting tissue, necrosis and secondary organization with or without participation of inflammatory cells; (3) repair with cicatrization, formation of cysts and calcification. Diagnosis can be established only by the demonstration of the parasites.

Zeitschrift für Orthopädie, Stuttgart

83:353-496 (No. 3) 1953. **Partial Index**

Pathogenesis of Flatfoot in Children. O. Stracker.—p. 353.
Pathogenesis of Contracted Flatfoot. E. Burckhardt.—p. 365.
Use of Arch Supports in the Treatment of Weak Feet. A. Rütt.—p. 398.
Symptomatology of Ischemic Contracture of the Leg. G. Burdzik.—p. 400.
*Compression Arthrodesis of Knee Joint. H. Greifensteiner.—p. 406.
Treatment of Paralysis of Hip Abductors by Means of Subtrochanteric Osteotomy. W. Leger.—p. 415.
*Statics of Vertebral Column: Its Importance in Treatment of Tuberculous Spondylitis by Means of a Corset. G. Kaiser.—p. 424.
Fixed Lumbar Lordosis: Symptomatology. R. Wilde.—p. 430.
Treatment of Pseudarthrosis. M. Ansart.—p. 440.

Compression Arthrodesis of Knee Joint.—Compression osteosynthesis by means of a double wire and tightening lever, which was developed for the treatment of pseudarthroses in 1945, has proved valuable also in the arthrodesis of large joints. In resections of the knee joint this method proved especially valuable and at the Vienna clinic for the care of accidental injuries this method of compression arthrodesis of the knee joint was used in 15 patients in a period of 18 months. Resection was carried out in such a way that a slice measuring only about 1 cm. was removed from the condyle of the femur and about the same thickness of cartilage and bone was removed from the tibia. The resected surfaces were somewhat oblique so that an angle of from 165 to 170 degrees resulted. This slight bending at the knee facilitates walking with the stiffened joint. Concavity and convexity of the resected surfaces was avoided, because it impaired the stability of the compression arthrodesis. Two Kirschner wires are threaded through the ends of the bones, at a distance of at least 2 cm. from the resected surface and they are then tightened with a lever. The distance of the wires from the resected surface may be as much as 5 cm. For additional fixation a plaster cast is put on, which is split at once. The compression of the bone ends with the double wire and tightening lever is usually maintained for four weeks and then the cast is removed, and a roentgenogram is made, while the wires are still in place. If the resection cleft is adequately bridged and the bones are tightly joined, the wires may be removed and a plaster cast suitable for ambulatory treatment is put on. After another four weeks, the second cast is removed. In 11 of the cases weight bearing could now be permitted, and there was no pain. In two other cases the cast was left to the ninth and tenth weeks. One patient still had pains at the end of eight weeks and so the plaster cast was renewed for another eight weeks. Observations on a case in which 26 weeks were required for bony union of the resected surfaces proved that compression must be instituted immediately after the resection. A technical mistake had been made, in that the tightening lever had not exerted adequate compression and after four weeks no bridging had taken place as yet. Another compression lever was now applied, but the time required for healing was about as long as that usually necessary for healing before the described method was introduced.

Statics of Vertebral Column in Treatment of Tuberculous Spondylitis.—Kaiser comments on various factors that influence the statics of the human vertebral (spinal) column, pointing out that the spine is under continuous tension, which in the dorsal part of the spine is influenced by the thorax. The erect body posture is regulated by tonic reflexes in the region of the neck. For this reason, the position of the head exerts a decisive influence on the statics of the spinal column. This deserves consideration especially in the treatment of tuberculous spondylitis; a corset, which immobilizes the entire vertebral column, is advisable in such cases. The author believes that the spondylitis corset of von Finck is best for patients with tuberculous spondylitis, since it insures fixation of the spinal column in its entire length.

BOOK REVIEWS

A Modern Practice of Obstetrics. By D. M. Stern, M.A., M.B., B.Ch., Obstetrics and Gynæcological Surgeon, West Middlesex Hospital and its annexes, London, and C. W. Burnett, M.D., F.R.C.S., F.R.C.O.G., Obstetric and Gynæcological Surgeon, West Middlesex Hospital and its annexes. Cloth. $7. Pp. 248, with 140 line drawings by Susan M. Robinson. [Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2]; Baillière, Tindall and Cox, 7-8 Henrietta Street, Covent Garden, London, W.C.2, 1952.

From their experiences in the delivery of 50,000 patients during the past 16 years, the authors have outlined in an orderly and logical arrangement their practice of obstetrics. The text is illustrated by numerous line drawings and diagrams. The sections of the book are devoted to normal and abnormal pregnancy, normal labor and its complications, the puerperium, operative obstetrics, the newborn baby, radiology, and mortality. The appendix contains a glossary, an etymology of obstetric terms, and sample records. Thus, the student and general practitioner can obtain a complete story of the science and art of obstetrics. Charm is added to this book by appropriate quotations from Shakespeare, which head each chapter and attest the fact that the authors are scholars as well as obstetricians.

The practice of obstetrics in this country and in England varies somewhat, but there is considerable agreement on most major principles. The authors suggest the use of symphysiotomy when the head is low in the pelvis and a narrow outlet obstructs delivery. This operation is of historical interest only in our teaching hospitals. Most patients deliver naturally, and forceps delivery is carried out on strict indications. The use of outlet forceps delivery and episiotomy are common procedures and are used widely in the United States. Placenta previa is classified into four different types, and still another method of designating the degree of previa is introduced. The treatment of postpartum hemorrhage could be expanded, for it is a major cause of morbidity and mortality. The publisher has done a superb job on the format and type of this book. This textbook can be recommended to students and practitioners.

Sacral Nerve-Root Cysts: Another Cause of the Sciatic or Cauda Equina Syndrome. By I. M. Tarlov, M.D., Professor of Neurology and Neurosurgery, New York Medical College, New York City. Cloth. $6.50. Pp. 134, with 65 illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Avenue, Springfield, Illinois; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

This monograph deals with its subject in a comprehensive manner in 11 chapters, the first 4 of which are devoted to the anatomy of the nerve roots and the filum terminale and their relationship to the meninges. The fifth, sixth, and seventh chapters are concerned with the gross and microscopic pathology and the last four chapters with the clinical aspects. The book is well printed on glossy paper and is illustrated by well-chosen figures. There is a brief but adequate list of references.

The author states that the cysts are relatively common, although he was able to collect only 10 clinical cases from the literature, which included 4 of his own. The cysts arise at the junction of the dorsal root and ganglion, and they may result from hyaline degeneration of the root or ganglion, transudation from thin-walled vessels, or hemorrhage. The cysts produce symptoms similar to those associated with ruptured intervertebral disks by compressing neighboring nerve roots, and they may erode the posterior sacral arch. The diagnosis is made with difficulty, because the cysts do not communicate with the subarachnoid space, usually originate below the end of the thecal sac, and cannot, therefore, be visualized at myelography. The development of slowly progressive changes referable to the sacral or coccygeal part of the cauda equina should lead one to suspect these cysts. Treatment is total excision.

The author states in the preface that negative results of exploration for a suspected ruptured intervertebral disk lead to the proof that perineural cysts are capable of producing symptoms similar to those of a ruptured intervertebral disk. The monograph was written to sharpen the awareness of the existence of these cysts. The author has covered the subject thoroughly; unfortunately, the present state of knowledge is too meager for the reader to obtain any satisfactory information that would help him in making the differential diagnosis between sacral nerve root cysts and other causes of low back pain.

Physiology of Exercise. By Laurence E. Morehouse, Ph.D., Associate Professor of Physical Education, University of Southern California, Los Angeles, and Augustus T. Miller, Jr., Ph.D., M.D., Professor of Physiology, University of North Carolina Medical School, Chapel Hill. Second edition. Cloth. $4.75. Pp. 355, with 49 illustrations. C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, 1953.

This well-written and easily understandable treatise is written principally for those in the field of physical education. The authors have conducted many interesting experiments, particularly in reference to fatigue. The chapter on fatigue and recovery describes the symptoms of general fatigue, chronic fatigue, the anxiety state, and other interesting notations relative to that subject. The book has 28 chapters, a glossary, tables of weights and measures, and an index. Each chapter has an excellent list of references. This is not a book to be recommended for those in the field of medicine or with advanced training in physiology; however, for those in the field of physical education it is an excellent volume.

Advances in Cancer Research. Volume I. Edited by Jesse P. Greenstein and Alexander Haddow. Cloth. $12. Pp. 590, with illustrations. Academic Press, Inc., 125 E. 23rd St., New York 10, 1953.

This is the first volume of a projected series of various phases and spheres of cancer research, each article written by an expert in the field. The subject matter of the first volume is directed largely toward animal experimentation, and only three sections are of potential interest to clinicians, namely, those on cytotoxic alkylating agents, nutrition in relation to cancer, and plasma proteins in cancer. The text is replete with bibliography, and there are excellent reviews on electronic configuration and hormonal aspects of carcinogenesis, epidermal carcinogenesis, the milk agents, radioisotopes, and various carcinogenic agents. This book is recommended chiefly for the research worker in experimental cancer.

Prospects in Psychiatric Research. Edited by J. M. Tanner. Proceedings of Oxford Conference of Mental Health Research Fund, March 1952. Cloth. $4.75; 21s. Pp. 197, with 4 illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

This conference posed for itself the following two problems: "What are the ignorances which today principally hamper our understanding of the nature, prevention, and cure of mental illness? What advances in research are most likely to remove these and so help to reduce the population of mental hospitals and institutions for delinquents?" To answer these questions the conference assembled Britain's leading authorities from nearly every psychiatric field. The contribution of each is of major interest to all those who deal with the fundamentals of behavior.

In an introduction to the symposium, the anatomist Le Gros Clark points out that "intellect" and "emotion" are separable neither psychologically nor anatomically. In microsmatic man only parts of the uncus, olfactory tubercle, and amygdalae

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These book reviews have been prepared by competent authorities but do not represent the opinions of any official bodies unless specificially so stated.

have direct olfactory functions; whereas the so-called rhinencephalon is a complex organ for emotional integration and, via the hypothalamus, controls the bodily expression of affect. The hippocampus, in particular, initiates a well-defined neural circuit through the fornix, mammillary bodies, anterior thalamus, cingulum, and then back to the hippocampus; and yet the functions of this circuit, present in mammals alone and probably mediating "motivational behavior," is unknown. So also, connections from the hypothalamus to the dorsomedial thalamic nucleus and then to the frontal cortex (i. e., those involved in thalamotomy) may be directly concerned with affective experiences; whereas the primitive reticular nuclei of the thalamus may regulate consciousness itself. Similarly, the functions and radiations of the temporal lobe—the most distinguishing feature of the human brain—are for the most part also unexplored. In this respect A. Meyer (page 19) adds, "It would be in keeping with the modern concepts if the functional psychoses turned out in the end to be a problem of the constitution and equilibrium of brain centers rather than disease entities in the Kraepelinian sense."

With regard to recent experimental advances, S. Sherwood reports on "hemicatatonia" in cats after the production of lesions only 1 mm. in diameter located between the mammillary bodies and the red nuclei, and M. Roth Jasper also notes that stimulation of the thalamic interlaminary system produces cortical electroencephalographic spikes and waves accompanied by variations in consciousness. Von Monakow points out that despite the current enthusiasm for cybernetics one must distinguish "servo" (feed-back) theory from functions of information and computing and that these require more specific correlations with cerebral function. Aubrey Lewis, in line with parallel American trends, calls attention to the social background and institutional settings of the psychoses and quotes Morgan to the effect that "wrong hypotheses, rightly worked, have produced more useful results than unguided observations."

In the spirit of interdisciplinary coordination that pervaded the conference, T. M. Wilson agrees with Franz Kallman that "the genetic theory of schizophrenia does not invalidate any psychological theories of a descriptive or analytic nature since schizophrenia can be prevented as well as cured"; nevertheless, according to F. T. C. Slater, 60 to 80% of the unicellular twins of psychotics also become psychotic. V. Bowlby believes that, just as embryonic cells later lose their capacity for versatile adaptation or as Lupus pups older than four months become unable to adopt a new master, so also a child deprived of a favorable environment for the first three years of life becomes unalterably isolated or asocial (i. e., psychopathic) in its patterns of conduct. Armstrong calls attention to the effects of conflict in eliciting "displacement activities" in comparative behavior, such as a stickleback's "irrational" attempt to dig a nest when he can neither fight nor run from an enemy. Such propensities can also be increased by hereditary selection, as in rats bred for eight generations to accentuate over-reactions to stress (C. S. Hall, 1938).

D. Richter contributes an illuminating discussion of cerebral chemistry. M. Reiss calls attention to various significant physiological facts, such as that psychotics excrete steroids every morning at two or three times the normal rate; in chronic mental patients the adrenal cortex is depressed rather than stimulated by corticotropin (ACTH); and arterenol (norepinephrine) found in the hypothalamus and median thalamus has effects similar to lysergic acid, which, in doses of only 30 to 50 mcg., can produce psychotic-like states. G. W. Harris clarifies various neurohormonal relationships by pointing out that the hypothalamus affects the posterior pituitary by neural connections and the anterior pituitary through the portal vessels, thus controlling also the thyroid, the gonads, and other ductless glands; conversely, a lesion in the mammillary bodies, tuber cinereum, or hypothalamus abolishes the corticotropin response to stress.

A. Kennedy, in summing up, states: "The work of Masserman in the United States and the emphasis on the ultimate physical basis of mental processes in Freud's last book, together with a general realization that there is no place for polemics, have given us reason to hope that the period of isolated schools of thought is at an end, apart from the healthy, minor controversies which are an essential stimulus to scientific advance." To which David Henderson adds: "The first thing [psychiatrists need] to do is get the cooperation of our medical colleagues." In fulfillment of the last sentiment, it is difficult to conceive a book of less than 200 pages better organized and written, broader in scope, more firmly packed with trenchant information and stimulating ideas, or more likely to reintegrate psychiatry with the rest of medicine in a joint attack on the problems of so-called mental disorders. The volume is highly recommended to all who are concerned with human behavior.

The National Health Service: A Guide for Practitioners. Edited by Max Sorsby, L.M.S.S.A., Vice-Chairman, Local Medical Committee, London. With foreword by Sir Allen Daley, M.D., F.R.C.P. Cloth. $3. Pp. 267. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2; E. & S. Livingstone, Ltd., 16 and 17 Teviot Place, Edinburgh 1, 1953.

This volume is a handbook or manual for practitioners who are in the National Health Service of Great Britain. It explains, in some detail, the organization and operation of the various component committees of the service. It also offers specific information on the rights of general practitioners and patients under the law and provides advice on appropriate action when any of a number of contingencies arise. While useful as a careful elucidation of the organization of the National Health Service and its regulations, the book makes little attempt to be critical or evaluative. Its greatest value, from the American point of view, lies in the outline of the complicated system now imposed on British medicine. The first chapter, a history of the development of social insurance and services, may serve as a warning of the direction in which these steps travel. The activities covered include compulsory health insurance in 1911, unemployment assistance in 1911, old age pensions in 1908, and workmen's compensation in 1880.

The text covers a variety of subjects that may affect the life of the medical practitioners: the statutory bodies such as the Medical Practices Committee, the Local Health Authority, the Hospital Boards; the nonstatutory bodies such as the British Medical Association; and the special services for eye and dental care, maternity services, pharmaceutical services, etc. The last section contains two chapters on the future, and particular attention is given to the deficiencies that need to be remedied. "It has been asserted that since 1948 a service has evolved which benefits only the administrators, doctors, dentists and their immediate ancillary workers. It is certainly true that increased medical benefits are being obtained by the majority of the public at very considerable personal inconvenience" (page 249). These chapters give piecemeal criticisms of specific aspects of the National Health Service. Only lip service is given to an over-all view of the program and to suggestions for definite improvements in the general scheme.

Crime Investigation: Physical Evidence and the Police Laboratory. By Paul L. Kirk, Ph.D. Professor of Biochemistry and Criminalistics, University of California, Berkeley. Cloth. $10. Pp. 784, with 161 illustrations. Interscience Publishers, Inc., 250 Fifth Ave., New York 1; 2a Southampton Row, London, W.C.1, 1953.

This book discusses (1) physical evidence in general criminal investigations and (2) laboratory operations and techniques. It is encyclopedic in scope. Designed for the police investigator, the book describes what physical evidence should be collected in the several types of criminal investigation and explains why the discussed evidence has value in apprehending criminals. Laboratory procedures and techniques are explained in general terms, and suggestions are offered concerning the manner in which less technical procedures may be performed when necessary. The book does not sufficiently emphasize the importance of the toxicologist, the pathologist, the serologist, and other medical specialists in criminal investigations and the necessity of cooperation between medicine and law enforcement officials. It may contribute to more nearly complete criminal investigations.

QUERIES AND MINOR NOTES

PERIODIC LOSS OF VOICE

To the Editor:—*A 34-year-old white woman consulted me about periodic loss of voice for the past two years. At times her voice is husky above a whisper. She has no pain, but there is an occasional dull frontal headache. X-ray examination of the chest did not reveal any abnormality, and tuberculin skin reactions were negative. No abnormalities were found on physical examination; bronchoscopic examination was refused. The patient is a waitress and is not able to continue her work owing to her condition. She has had two episodes of coughing up of bright red blood but none for past four months. Her blood pressure was 104/50 mm. Hg. The Kahn reaction was negative. The hemoglobin level was 14 gm. per 100 cc., and the cutaneous (Pirquet) reaction negative. She weighs 158 lb. and has a good appetite. I would appreciate your comment.* *B. Goldberg, M.D., Chicago*

Answer.—The important considerations in this patient are the occasional hoarseness and the hemoptysis. It is assumed that a careful mirror examination of the larynx has been done; if not, certainly it is indicated. The commonest cause of periodic loss of voice is repeated acute infection. Chronic disturbance of the larynx such as that due to inflammatory tumors of the larynx can produce intermittent hoarseness but usually does not. This is also true of any lesion that would produce injury to the recurrent laryngeal nerve. If the hoarseness is due to injury to the recurrent laryngeal nerve, it may be directly related to this patient's hemoptysis. Hemoptysis must be regarded as a warning symptom of importance demanding adequate study. This should include careful fluoroscopic examination of the chest, with particular observation of the dynamics of the respiratory movements and inequalities of ventilation in different parts of the lung. The esophagus should be studied by having the patient swallow a radiopaque capsule and a thick and thin radiopaque mixture in the erect and Trendelenburg positions. Roentgenograms should include a posteroanterior view of the chest in inspiration and expiration, a lateral Bucky (infraroentgen ray) film of the chest, and a lateral view of the neck showing the soft tissue detail. In the event that these show no abnormalities or the significance of abnormal findings is uncertain, direct laryngoscopy and bronchoscopy should be done. Bronchoscopic examination should include direct inspection of the upper lobe bronchi and superior divisions of the lower lobe bronchi by means of a right angle telescope. Secretion should be collected from appropriate areas of the lung and examined for its cellular characteristics, with particular observation for the presence of neoplastic cells. It should also be studied bacteriologically. If these findings are not conclusive, bronchography should be carried out. Since it is usually best to examine each lung separately, two separate sittings are required. If both lungs are studied at the same time, the upper lobe bronchi are usually not properly outlined and there may be confusion as to the location of abnormal shadows. In the event that no evidence of disease is disclosed by the above studies, the patient should be kept under observation and x-ray examinations of the chest repeated at three to four month intervals for at least one year.

ANENCEPHALIC MONSTERS

To the Editor:—*Please give the incidence of the anencephalic type of fetal monsters and the proportion that go to term.* *Robert L. Moore, M.D., Union, Miss.*

Answer.—There are no published figures on the incidence of anencephalic monsters in the general population. In unpublished data from the Chicago Lying-in Hospital, Potter notes that 12 anencephalic monsters were observed in about 15,700 births of white infants, making an incidence of about 0.6 per 1,000 births. Seven were stillborn, and five were liveborn. Two weighed less than 1,000 gm., five weighed from 1,000 to 1,500 gm., and five weighed from 2,500 to 3,000 gm. The rate of growth of malformed infants is often abnormal, but in these cases it seemed safe to assume that five (about 42%) were born at or near term.

LIGHTNING PAINS OF TABES DORSALIS

To the Editor:—*I would like you to recommend treatment for pains due to tabes dorsalis. A patient contracted syphilis in 1926 and within a short time received 10 injections of an arsenical compound. In 1939, he began occasionally to have shooting pains, which became severe in 1944. In 1946, he received 16 injections of a bismuth preparation, and in 1949, he was given penicillin for two weeks. He was hospitalized for hepatitis for 22 days in 1949. In 1950 or 1951, he received 20 to 30 injections of Protamide (a colloidal solution of processed and denatured proteolytic enzyme). In February, 1953, he was treated at a sanatorium for two weeks for vomiting in the absence of abdominal pain. In March, 1953, he was given a successful smallpox vaccination. None of the therapy for syphilis has been effective. The pains last for two to three minutes and come on at irregular intervals. They often awaken the patient at night and at times are severe enough to cause need for a narcotic. The patient claims that only acetylsalicylic acid or whisky gives relief, which is only partial. He is tall and thin, is 45 years old, and appears healthy. He has Argyll Robertson pupils and a blood pressure of 164/100 mm. Hg. The patellar reflexes are absent. Fluoroscopic examination revealed a small fusiform aneurysm of the aorta.* *M.D., California.*

This inquiry was referred to two consultants, whose respective replies follow.—Ed.

Answer.—The status of the spinal fluid is an index of what may be accomplished by treating for syphilis a patient who has the severe lightning pains of tabes dorsalis. If the spinal fluid has become negative, either spontaneously or as the result of treatment, the further use of antisyphilitic remedies will not give relief from pain. Antisyphilitic treatment will give relief from pain in about one-third of patients who have an active spinal fluid infection, as indicated by a high cell count. Since the status of the spinal fluid is not mentioned in this inquiry, it is difficult to answer the question. If the spinal fluid is negative, further antisyphilitic treatment is not necessary, even though the results of blood serologic tests are positive. Therapy should consist of avoidance of fatigue, emotional upsets, and exhaustion states and avoidance of "colds" by use of rubbers and long underwear during the winter. Pains may be less severe in a hot dry region than in a cold humid one. Occasionally, removal of foci of infection in the teeth or tonsils or the elimination of infection in a cord bladder, by prostatic resection if necessary, may aid in decreasing the frequency and severity of the pains. During severe attacks of pain, the use of opiates may be necessary, but the danger of creating a habit must be borne in mind. A hot tub bath followed by a drink of whisky and a period in bed wrapped in blankets to induce sweating may help. The liberal use of acetylsalicylic acid and the taking of a hot tub bath are more effective at the beginning of an attack of pain than after the pain has been present for 24 hours or so. In other words, steps should be taken to prevent attacks. The use of vitamin B_{12} has been recommended, and it may have slight benefit in decreasing the frequency and severity of the attacks. The results from surgical procedures such as chordotomy, have been

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The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically so stated in the reply. Anonymous communications and queries on postal cards cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.

variable; however, the danger of the occurrence of more serious neurological complications as a result of the surgery has tended to minimize the frequency with which this type of procedure is recommended.

Answer.—Lightning pains of tabes dorsalis may persist long after the underlying disease has been adequately treated and is apparently inactive. Bouts of such pain are often precipitated by one of the following trigger mechanisms: 1. A change in the weather, especially a change from fine, mild weather to damp, cold weather, that is accompanied by a falling barometric pressure, may precipitate attacks of pain; many patients volunteer this information, and from most it can be elicited on careful questioning; spending winters in Florida or southern California, when possible, may provide alleviation. 2. Elevation of body temperature, even though one degree or less in amount, such as may be associated with an acute upper respiratory tract infection, almost invariably precipitates a shower of lightning pains. 3. Focal infection, even in the absence of fever, may precipitate pain; it is essential, therefore, that chronic infection in the upper respiratory tract, including the sinuses is eliminated, that abscessed teeth, if present, are removed, and that the frequent tabetic complication of infection in the lower urinary tract is appropriately dealt with. 4. Constipation is another mechanism that tends to bring on attacks of pain, and the patient should be instructed to maintain regular bowel habits, with the use of laxatives if indicated. 5. Fatigue, whether mental or physical, may produce pain, and the patient should be cautioned against it. These widely varying trigger mechanisms for attacks of lightning pains are obviously unrelated on any exogenous basis. They are the same group of mechanisms that tend to make the subjective and objective manifestations of rheumatoid arthritis worse. In view of this similarity, certain patients with lightning pains, especially those who tend to have them daily or several times a week, may be benefited by the prolonged administration of adrenal cortical hormones, especially cortisone for oral use. Fever therapy is often useful in cutting down the incidence and severity of attacks but is contraindicated in the patient described, because of the probable association of cardiovascular syphilis. Further chemotherapy or antibiotic therapy is not likely to be of much help.

PROFOUND EFFECT FROM MORPHINE

To the Editor:—*In treating a patient with congestive heart failure, I mixed 0.5 cc. of morphine sulfate solution (each cubic centimeter containing ½ grain of morphine sulfate with 0.5% chlorobutanol and 0.1% sodium bisulfite) with 2 cc. of meralluride (Mercuhydrin) in the same syringe before injecting the mixture intramuscularly. The patient three hours later had what appeared to be a very profound effect from the morphine. This patient had been given ⅛ grain of morphine before with only the desired effect. Could the mixing of the two solutions have been responsible for this?*

M.D., *New Jersey.*

Answer.—According to the U. S. Pharmacopeia, meralluride injection (Mercuhydrin) has a pH that varies between 7 and 8.5. Therefore, the combination of acidic morphine sulfate with neutral mercuhydrin could result in a precipitation of either one or both of these substances. Since no precipitation was noted at the time of injection, it is assumed that the state of the morphine or mercurial diuretic was not changed by the combination. The patient received 16 mg. of morphine and had previously tolerated 8 mg. If the patient is well over 60 years of age, the use of 16 mg. of morphine could very well have produced the symptoms by the opiate dose alone. These older patients are extremely susceptible to an increase in dosage, and the only previous dose tried had been only half as large. It is, therefore, possible that the patient reacted to the dose of morphine alone, since there is no evidence of interaction of this mercury salt with the morphine and there are no experimental studies indicating possible potentiation by mercurials.

WAS THE PATIENT PREGNANT?

To the Editor:—*A white woman, 37 years of age, has been pregnant four times. The second pregnancy terminated in spontaneous abortion at 16 weeks. During the 16th week of her present pregnancy this woman had a severe enteritis with bloody diarrhea. After this the uterus failed to enlarge and began to decrease in size. Fetal heart sounds were never heard. It is four months since this incident occurred, and there has been no passage of uterine contents. Although the patient is in general good health, she is somewhat depressed by the prolongation of this condition. I would like advice about inducing abortion. Is there danger in allowing this condition to go on indefinitely?*

M.D., *New York.*

Answer.—Much important information was not given. Was the patient actually pregnant, or did she just miss the periods? Was a pregnancy test done? Did the patient bleed from the vagina? Did she have pain or cramps? Is she menstruating now? If she was pregnant, she may have had a missed abortion, in which event the products of gestation may not be expelled until about the date she was due. No harm will be done if the patient is left alone. Hormones are worthless in these cases. If the patient is emotionally upset or if amenorrhea has gone past the expected date of confinement, dilation and curettage may be done. If irregular bleeding occurs, dilation and curettage are more urgently indicated. A pregnancy test would be worth while. The above advice is indicated only if the uterus is getting or has gotten smaller in the last two months.

CONTRAINDICATIONS TO SHOCK TREATMENT

To the Editor:—*What are the contraindications to electric shock treatment?*

M.D., *Illinois.*

Answer.—Each patient for whom electric shock treatment is considered must be evaluated individually, and the advantages to be gained by a possible psychiatric recovery must be weighed against the risks imposed by existing physical disease. Absolute contraindications to convulsive therapy are aneurysm of the aorta, coronary disease, angina pectoris, and tuberculosis in patients with a history of recent hemorrhage or high activity. Recent fractures of bones are important contraindications, and the therapist should consult with a bone specialist to decide how soon after a fracture convulsive treatment can be given. Cerebral aneurysm, brain tumor, and other conditions in which intracranial pressure is increased are absolute contraindications, as are toxic diffuse goiter, acute infections, and thrombophlebitis. Convulsive treatment should be avoided in peptic ulcer and diverticula. Glaucoma and threatening ablation of the retina also are considered absolute contraindications to its use. Among the relative contraindications are generalized arteriosclerosis, fixed hypertension, myocardial disease, tuberculosis, diseases of the joints and bones, organic brain disease, and mild infection of any sort. With respect to these latter diseases, however, Kalinowsky's advice should be followed: "It bears repetition that the seriousness of the physical illness and of the mental condition must always be carefully weighed against each other." Preexisting physical diseases should not be overstressed as contraindicating treatment that, although admittedly drastic, has surprisingly few ill effects on the organism as a whole.

OILY HAIR

To the Editor:—*I would like some information on the proper treatment of very oily hair in white women.*

Warren F. Clark, M.D., Hollywood, Calif.

Answer.—The condition may be controlled and maintained under control but not cured. The treatment consists of the daily application to the scalp of drying agents, formulas for which are contained in all textbooks of dermatology. A popular one consists of salicylic acid, 2 gm.; coal tar solution (liquor carbonis detergens), 8 cc.; camphor water, 45 cc.; and ethyl alcohol (up to 95%), 180 cc.

THYROID CANCER IN TWINS

To the Editor:—*I removed a nodule from the right lobe of the thyroid gland of a 21-year-old woman that proved to be an adenocarcinoma. There is no evidence of residual tumor. Since this patient is an identical twin, is it justifiable to advise that the right lobe of the thyroid gland be removed in her sister?*

M.D., California.

Answer.—Reports in the literature indicate that cancers affect both members of a monozygous twin pair much more frequently than they do both members of a dizygous twin pair. Such tumors are usually of the same type and arise in the same organ in both twins more frequently in monozygous than in dizygous groups. In monozygous twins the age at onset of the tumors is much closer than in the dizygous twins. Although Graves' disease occurs in identical twins, cancer of the thyroid has not been observed in both members of a monozygous pair of twins in a large series of thyroid cancers. Thyroidectomy in the patient's sister would be of no value unless a total thyroidectomy with its risk of parathyroid insufficiency and of recurrent nerve damage were done. In view of the natural history of this type of cancer, careful observation of the sister for a thyroid nodule or for enlarged cervical lymph nodes is advised. Since the administration of certain goitrogenic drugs over long periods of time results in tumors that can be prevented by the coadministration of thyroxin, treatment of any degree of hypothyroidism in this twin with thyroid in maximally tolerated doses is advocated.

LEAD POISONING

To the Editor:—*In the screening of factory workers for possible exposure to lead, is the presence of basophilic stippling of red cells in an otherwise normal blood picture considered pathognomonic of chronic lead poisoning?*

M.D., California.

Answer.—The mere demonstration of qualitative punctate stippling of red cells is insufficient evidence on which to base the diagnosis of lead poisoning. Quantitative enumeration has some merit, and the basophilic aggregation test is still superior. Yet the indication or enumeration of any formed elements of the blood is not pathognomonic of lead poisoning. Such procedures may be of value in the screening of numbers of exposed workmen. Greater reliance may be placed on the quantitative determination of lead in the urine or blood.

RESEARCH ON EPILEPSY

To the Editor:—*Please advise where outstanding work is being done on a cure for epilepsy.* *M.D., New York.*

Answer.—Outstanding work toward the control, if not the cure, of epilepsy is conducted in various medical centers. The interest may vary in each and may be primarily in research or in treatment, the approach may be primarily surgical or medical, and the patients may be primarily adults or children. Centers in New York, Baltimore, Chicago, San Francisco, Montreal, Canada, and Boston are perhaps most active in research. Up-to-date consultative advice and treatment is available in many other cities. If informed of the particular problem involved, Dr. J. K. Merlis, secretary of the Physicians' League Against Epilepsy, National Veterans Epilepsy Center, Boston Veterans Administration Hospital, can give more specific information.

CONDUCTIVE OPERATING ROOM FLOORS

To the Editor:—*I heard a talk on conductive flooring for operating rooms to guard against explosions. Please give any information you have on such flooring that could be installed in an old operating room.*

Paul E. Pearson, M.D., Kansas City, Mo.

Answer.—Of several flooring materials studied by this consultant, two can be recommended on the basis of their performance. One is a conductive, vitreous ceramic tile. The small tiles are ¼ in. thick and require a conductive underbed about 1 in. thick. At present, this flooring is available in black and green tile combinations. To install these tiles the room must be vacated for 7 to 10 days. Additional information may be obtained from the Olean Tile Co., Olean, N. Y. The other flooring material is conductive vinyl plastic tiles measuring 9 in. square and ⅛ in. thick. This is a tough floor covering that is cemented through a copper wire screen to any existing flooring. It is known as conductive Vinylast and is black with mottlings of green and light gray. This material can be installed over a weekend. Additional information may be obtained from Vinyl Products Co., Sheboygan, Wis.

PREGNANCY AND NEPHRITIS

To the Editor:—*A diagnosis of minimal glomerulonephritis was made six years ago in a woman who is now 30 years old. The urine has shown albumin, red blood cells, white blood cells, and hyaline and granular casts on different occasions. Results of phenolsulfonphthalein tests have been good, but there has been evidence of impaired concentration. Daily blood pressure readings during past months have ranged between 130 and 140 mm. Hg systolic and between 75 and 85 mm. Hg diastolic. Previous blood pressure determinations never showed any reading over 120 mm. Hg systolic. The patient is married and is anxious to become pregnant. I have been emphatically opposed to this and would appreciate an opinion.*

Louis V. Jurich, M.D., New York.

Answer.—There is little harm in permitting this patient to become pregnant. She should be given at least one chance. If her condition becomes aggravated, the pregnancy can be terminated. Most likely, she will be able to go through her pregnancy with the production of little, if any, further damaged. Aside from the physical condition involved, the effect on the patient's psyche, not so much now as a few years from now, of not taking at least one chance at having a baby should be considered.

EPIPHORA

To the Editor:—*What causes the eyes to water in the apparent absence of irritation? This condition seems to be associated with nasal involvement in a patient whose lower eyelids are slightly congested.* *M.D., Rhode Island.*

Answer.—Epiphora can be produced either by increased secretion of tears or by obstruction of the drainage system. In the former case, as the question implies, ocular inflammation should be considered and treated. Obstruction of drainage may occur anywhere in the lacrimal passages and may be due to absence, occlusion, or obstruction of any part. A punctum not in contact with the conjunctiva will also prevent drainage. Investigation of the punctum, canaliculus, and nasolacrimal duct is indicated.

DIFFICULTY IN TREATING "SIMPLE ANEMIA"

To the Editor:—*The query regarding difficulty in treating "simple anemia" in* The Journal *(152:1082 [July 11] 1953) reminds me of Dr. Wintrobe's clinical catechism, videlicet, "Before treatment of anemia, a good history must be taken and a physical examination and necessary laboratory work done." As an intern I saw patients who were hospitalized because of "untreatable simple anemia." One patient had hypothyroidism and responded, over a period of time, to replacement therapy with thyroid. Another had azotemia due to chronic pyelonephritis; only the infection could be treated. A third, and more interesting, patient had arthritis and an incidental history of reactions when given transfusions for anemia. This woman also had a skin eruption; her anemia was not due to the arthritis, as previously thought, but to lupus!*

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DEVELOPMENT AND FUTURE OF THE SECTION ON NERVOUS AND MENTAL DISEASES

CHAIRMAN'S ADDRESS

Francis M. Forster, M.D., Washington, D. C.

Before considering the formation and the subsequent evolution of the Section on Nervous and Mental Diseases, it is worth while to consider briefly the development of the concept of sections as a whole. When the American Medical Association held its 12th meeting at Louisville, Ky. in 1859, Dr. J. B. Lindsley of Tennessee moved that a committee of three be appointed by the President of the Association to inquire into and report upon the propriety of dividing the Association into sections, "for the purpose of performing such parts of its scientific labor as may relate to the practical branches of medicine and surgery." At this early date in the history of the American Medical Association it was obvious that the scientific programs could be more specifically activated by the division of labor according to the lines of medical interest. The motion of Dr. Lindsley was adopted, and the next day at the meeting Dr. Lindsley recommended that sections be set up on: (1) anatomy and physiology, (2) chemistry and materia medica, (3) practical medicine and obstetrics, and (4) surgery. Later the same day, Dr. H. F. Campbell moved that two sections be added: one on meteorology, medical topography, and epidemic diseases and the other on medical jurisprudence and hygiene. While the Section on Medical Jurisprudence was provided for in the 12th meeting of the Association in 1859, there is no record of its organization until 1865, even though there are references here and there in the minutes of the American Medical Association that papers were referred to this committee. In 1865 the Section on Anatomy and Physiology was abolished and became the Section on Medical Jurisprudence, Physiology, and Hygiene. In 1873 the sections were reorganized and this section became that of medical jurisprudence, chemistry, and psychology. In 1879 the section again was changed and was merged with the Section on State Medicine. In 1883 it was the Section on Medical Jurisprudence, but this was for only a short time and after two years again lapsed. In 1885, Dr. H. S. Campbell, the President of the American Medical Association, recommended in the concluding remarks of his address that consideration be given to the reorganization and the rehabilitation of the Section on Forensic Medicine. By the motion of Dr. Callendar of Tennessee the title was changed to the Section on Medical Jurisprudence and Neurology.

In 1886 the section was again reactivated under the title of Section on Neurology and Medical Jurisprudence. At this time Dr. John P. Gray of Utica, N. Y., was prominent in the resurrection of the section and the combination of psychiatry and neurology was evident in his address, "Psychological Medicine and Nervous Diseases." Dr. Gray died on Nov. 30, 1886, and his activity in this section was therefore short lived. In 1891, the American Medical Association planned for the organization of the National Medical Association under the new constitution and bylaws of this national organization. The eighth of the sections listed was that of medical jurisprudence and neurology. Note that at that time neurology played a role second only to medical jurisprudence; however, in the meeting that same year, this title was reversed and the section became the Section of Neurology and Medical Jurisprudence. Dr. Corothers of Hartford, Conn., was the chairman of the Section in the year 1891, and in his chairman's address he discussed the early psychic symptoms of traumatic brain disease. Thus was emphasized the correlation between the various disciplines that later evolved into this section.

The following year, 1892, the Section of Neurology and Medical Jurisprudence was strongly organized. Dr. Harold M. Moyer of Chicago was chairman and for his address planned to discuss the organization and work of this Section of Neurology and Medical Jurisprudence. However, just prior to the delivery of the chairman's address, the Association, in its general meeting, set forth the policy of each section developing its own executive committee. This autonomy for the Section was apparently Dr. Moyer's goal, and therefore, he did not deliver the prepared paper. Instead he informed the Section of the

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From the Georgetown University Medical Center, Georgetown University Hospital.

Read before the Section on Nervous and Mental Diseases at the 102nd Annual Meeting of the American Medical Association, New York, June 3, 1953.

resolution adopted by the Association, and dwelt briefly on the development of the Section. Dr. Moyer himself chose the year 1885 as the point of origin of the Section. In view of the confusing early development of the Section, the opinion of Dr. Moyer regarding the year of origin is particularly valid. Since this date coincides with the first specific reference to our specialties in the title of the Section, it is acceptable and we can consider 1885 as the year of origin of this section. The peculiar liaison between neurology and medical jurisprudence was not particularly happy, and as early as 1897 there were recommendations before the Section to change the name and a tendency toward the elimination of the medical jurisprudence in the title. A historical résumé of the Section was presented by Dr. Hugh Patrick of Chicago on July 28, 1900, in his chairman's address. Dr. Patrick's paper reviewing the section work up to that time succeeded in bringing about the divorce of neurology from medical jurisprudence. He pointed out that the peculiar alliance of neurology and medical jurisprudence was brought about by jealousy among officers of other sections who feared that, if a nervous and mental disease section was set up, much of the good material appearing in their sections would drift into a new section, thus the development of the Section on Medical Jurisprudence and Neurology was a compromise situation. Dr. Patrick pointed out that, of the 444 papers presented before the Section up to that date, only 64 were concerned with jurisprudence; and, of these 64, 39 related to medicolegal relations of nervous and mental affections and therefore rightly belonged before a section on nervous and mental diseases. Dr. Patrick pointed out that the great strength of the Section lies in neurologists and alienists and that medical jurisprudence is only secondary. At this meeting in 1900, the name of the Section was altered to the Section on Nervous and Mental Diseases and has since remained the official title. There was one recent period when an attempt was made to change this to the more modern terminology of Section on Neurology and Psychiatry. This was not felt adequate, because it deleted from the title one group of our colleagues, the neurosurgeons, and also because the present name has a wider appeal and attracts physicians outside our specialties.

This attempted change also pointed out the unique position of our section. There is no other nationwide forum where the three groups of specialists interested in the diseases of the nervous system meet together for their common good as well as for the exposition of their common knowledge before other physicians. The neurologists, neurosurgeons, and psychiatrists have no other national society that includes equally all three groups. This has been true since the development of these fields as separate entities. The Section has always been strongly medical-neurological in its orientation; however, with the evolvement of neurosurgery as a separate discipline, that field came more and more into its own. The greater development of psychiatry after World War I was evidenced by the appearance of an increased number of psychiatry papers on the program.

The autonomy of the Section has been threatened only once. This was in 1916 when the Board of Trustees raised the possibility of absorbing the Section into that of general medicine. This caused a 2 day acrimonious discussion that wove in and out of the scientific session and was apparently sufficiently strong to offset the threat. In 1917 the number of sessions was determined at three per meeting, with a total number of papers of six per session. This has been the pattern ever since. At that time, however, there was some disappointment and annoyance, for the meetings of the session were apparently quite leisurely, carried from 40 to 50 papers, and often extra sessions were held in the evenings to accommodate papers that could not be read during the day. In 1948 there was a possibility of the Section being reduced from three sessions to two per meeting. This possibility was forestalled, however, because of the need to accommodate three specialty groups and because the attendance in the Section had increased, or remained stationary, while attendance in other sections tended to decrease.

FUNCTION OF THE SECTION

We have, up to this time, considered the early formation of sections and the evolution of the Section on Nervous and Mental Diseases; now we turn to some consideration of the role played by this section in medicine. The Section has two main purposes. The first is the dissemination of scientific knowledge, and the second is the judicious use of its influence for the development and maintenance of those fields of medicine with which it is primarily concerned. The most obvious of these two roles is that of dissemination of scientific knowledge; we shall consider that first.

The dissemination of scientific knowledge by the Section is primarily directed toward two groups; first, those that are intimately working in the field of diseases of the nervous system and, secondly, those physicians whose prime interests lie elsewhere. The Section on Nervous and Mental Diseases is not a specialty society. There is adequate representation elsewhere for such societies. There are at least five neurosurgical societies, two major national neurological societies, and the over-all psychiatric society, in addition to the various psychiatric societies representing the various divisions within the total field of psychiatry. It is, therefore, not necessary for the Section to consider itself as taking the place of, or competing with, any of these specialty organizations. It is justifiable to consider the Section as a specialty society only in the sense that it brings together the three specialties as outlined before, and because it serves as the only single forum for all three divisions.

Of far greater importance, from the standpoint of dissemination of scientific data, is the relationship of this section to the physicians in other fields. Our greatest single obligation is to present to specialists in other fields, and even more to the general practitioner, those advances in our own field, the validity of which we stand assured. This, therefore, influences the type of program it is necessary for the Section to propose. It is, of course, important that there be some new and experimental work which will satisfy the interests of the specialists in our field. It is, however, equally important that there be laid before men in other fields, and especially our colleagues in general practices, a background of stable, solid data in our specialties. This material must be proved by time, yet not so much time must have elapsed that the data are readily available elsewhere. This calls for a peculiar balance between the new and the tried, but not hackneyed, remedies and concepts.

In reviewing the topics presented before this section from 1886 up to and including the meeting for 1952, I have been impressed by the timeliness of many of the papers, their durability after the passage of many years, and the paucity of subsequently disproved data. A good example of the timeliness of articles is the presentation in 1913, by Dr. B. W. Sippey, of the validity of colloidal gold solution studies of the cerebrospinal fluid. This was just one year after the original description of the technique. The paucity of subsequently disproved data is indicated by the rarity with which one finds papers such as that on the 1937 program presenting a glowing report on the results of vitamin therapy in muscular dystrophy. The privilege of the secretary of the Section to hold and observe the books of the Section carries with it the intimate opportunity to glance over the development of our field. In 1938, when Dr. Paul Bucy was secretary, he noted three stars in the secretary's book in front of the paper by Dr. Merritt and Dr. Putnam on the use of diphenylhydantoin sodium in epilepsy. The good judgment of Dr. Bucy on the validity and greatness of that paper and the fact that after 15 years diphenylhydantoin sodium is still a mainstay in the treatment of epilepsy are good indications of the durability of the types of papers presented on this program.

Turning now to the second function of our section, we note the Section on Nervous and Mental Diseases and its predecessors have also always maintained a firm interest in the activities of the American Medical Association itself and with various broad policy aspects in the field. We are indebted to the Section for its forthright action in many things. In 1894 the members of the Section were concerned with the problems of institutionalization for alcoholics and recommended that each state construct an asylum for the care of inebriates. In 1918, the Section recommended to the American Medical Association that, in view of the great development of the field of nervous and mental diseases, the American Medical Association undertake to publish a special journal devoted to the field. This resolution was brought before the House of Delegates and gave rise to the publication of the *Archives of Neurology and Psychiatry,* which subsequently became the *A.M.A. Archives of Neurology and Psychiatry.* In 1919, under the leadership of Dr. Patrick, the Section promptly sent a resolution to the Trustees of the American Medical Association thanking them for the organization of the new journal. The promptness with which this section has leaped into action was evident as far back as 1913, when a paper was presented by Dr. C. D. Camp of Ann Arbor, Mich., regarding the presence of seizures and paresis in railroad engineers. The Section immediately went on record as opposing the driving of railway trains by epileptics or paretics and sent this resolution on to the Trustees of the American Medical Association. In 1933, the Section demonstrated concern over the incidence of congenital syphilis and recommended that steps be taken to procure serologic tests in all pregnant women. Not only the general welfare problems have been considered and activated by recommendations sent to the House of Delegates but the Section has been willing to serve in advisory capacities, and thus in 1941 a committee was appointed for one year to aid the committee of the A.M.A. Council on Industrial Health. The work of the foundations and of lay organizations has not gone unheralded. In 1937, on the recommendation of Dr. Hans Reese, a resolution of gratitude was sent to the foundations from the field of psychiatry in appreciation for the interest they had shown in research and mental illness. In 1948, the Section requested that the A.M.A. recognize the Multiple Sclerosis Society for its efforts as a voluntary health organization. While caution must always be exercised by organized medicine in dealing with governmental agencies, the Section in 1946 evinced interest in having the U. S. Public Health Service activate programs in the field of nervous and mental diseases. Of major importance is the role of the Section in the development, in 1931, and the subsequent maintenance of the American Board of Psychiatry and Neurology, Inc. The Section evinced interest in the plan proposed by the National Board of Medical Examiners for specialty examinations in the field of neurology and psychiatry, and in December, 1933, a committee met to form this board. This was under the chairmanship of Dr. Walter Freeman of the A.M.A. Section Committee. The committee from this section played a major role in the formation and early charting of the course of the board. In recent years, the Section has been concerned with the problem of crediting clinical psychologists and the committee of the Section under the chairmanship of Dr. Francis Gerty and later under Dr. Daniel Blain, has dealt with this major problem. The complex ramifications of this have been great, as indicated in the committee reports, and involve not only the clinical conclusions but also legal ones.

CONTRIBUTIONS OF THE THREE SPECIALTIES

We turn now to the role played by each of the three constituent specialties in the development of this section and the role played by the Section in the development of these three specialties. The programs of this section mirror the advancement in these fields. This indicates that the Section and the specialties have served each other well. Neurosurgery is the youngest of the three specialties to have evolved as a separate discipline, and so the appearance of papers primarily neurosurgical was at a later period than in the other two fields. The first appearance of a neurosurgical paper on the program of this section was in 1893, when Dr. John B. Deaver of Philadelphia described the surgical treatment of tic douloureux. The next neurosurgical paper was in 1900, when Dr. H. H. Hoppe of Cincinnati reported on seven patients with brain tumors who had undergone exploration. In 1906 Dr. Allen Starr of New York reviewed the status of neurosurgery. Crucial papers in the neurosurgical field that have appeared on the program before this section are those of: Harvey Cushing, the "father of neurosurgery," in 1922, Dowman and Smith of Atlanta, Ga., on false localizing signs of brain tumors, in 1930, Percival Bailey, on sphenoid ridge meningioma, in 1933, and Speigel and his collaborators, on stereoencephalotomy, in 1951.

The full-fledged development of neurosurgery is evidenced by the turning over of more and more of the time of the Section to neurosurgery, so that since 1948 a just portion of the program, one-third, is devoted to the field of neurosurgery. The quality of the neurosurgery papers has always been excellent, and this portion of the program has become a pillar of strength. The progress of psychiatry is indicated also by the development of the section programs. In the early days of these programs, matters concerning alienists and the problems of medical jurisprudence comprised the bulk of the program. Later, the frank psychoses associated with fever, syphilis, and childbirth became a more and more prominent part of the picture, and gradually the neuroses themselves appeared in the framework of the programs. Interestingly, one of the early papers on neuroses was that of Dr. Weisenberg of Philadelphia, who was primarily a neurologist. The psychoanalytic movement exerted influence continually in this section, although papers of psychoanalytic interest have not been a predominant part of the psychiatric program. The earliest paper dealing with psychoanalytic concepts was that on the subconscious mind by Clark Bell of New York, in 1897. It is interesting that the greatest attendance at the Section in recent years was for the paper by Dr. Leo Bartemeier on the attitude of the physician, in 1950. This in itself is healthy, for it implied that our section not only served in the exposition of the specialty but, from the broad base of psychiatry, could carry before the physician the implications of his obligation.

Various drastic therapy procedures in use in psychiatry have been adequately and frequently reviewed before this section, and thus in 1937 there was a symposium on the prefrontal area with particular reference to prefrontal lobotomy and in 1937 a symposium on insulin shock therapy. In addition to these symposiums, in 1930 Bleckwenn presented before the Section the first data on the use of amobarbital (Amytal) sodium injections in the therapy of psychosis, and the same year Neyman discussed artificial fever therapy for the psychoses. In 1938, Dr. Hans Reese critically evaluated the insulin shock and pentylenetetrazol (Metrazol) shock therapy, and in 1950 the status of transorbital lobotomy was presented and discussed before this section.

Neurology, of course, has always been the mainstay and the center core of the Section. This is by tradition, since it was early known as a Section on Neurology, and, as we have noted before, medical jurisprudence was more or less tagged on by the action of other sections. Neurology has gone through recession and renascence during the years since 1886. The type of program in itself indicates this quite well. The preoccupation with nosologic classification was evident, of course, in the period of the classification era of neurology. One need only go back through the papers of that era and find classic descriptions, for example, Archibald Church's paper on neurology of cervical ribs, which was read in 1919. These earlier programs were primarily on diagnostic neurology, although Charles Mills, when he read a paper on some experience in neurological therapeutics, received no discussion whatsoever of the paper. The sad state of neurological therapy at that time is evidenced by Dr. Mills' concern of the Perkins metallic tractors and the suspension treatment of locomotor ataxia. Dr. Mills sharply observed that neurologists and surgeons were prone, without due consideration of principles, to have recourse to procedures that could not possibly be of any practical service. Among these he included the short circuiting operations on the bowel for epilepsy, craniectomy for imbecility and idiocy, and the nerve stretching procedures for various painful situations. Therapy in neurology has taken an increasingly prominent place in our programs in recent years, so that now approximately one-half of our papers are devoted to therapy. This is, of course, as it should be, for medical neurology has now ceased to be primarily a diagnostic consultative service. The neurologist is no longer wrapped in the glamour of attaching men's names to the patients' symptoms, packing his kit, and walking away from the bed. He is a physician and is interested in therapy, including rehabilitation.

In this modern renascence of neurology, epilepsy plays a prominent role. This is to medical neurology what infectious diseases are to internal medicine. The prominence of epilepsy in the programs of the Section is evident. The first paper dealing with epilepsy appeared in 1891, and, in almost every program since, there has been at least one paper concerned with some aspect of epilepsy. This first paper on epilepsy was by Trowbridge and Mayberry of Danville, Pa., and dealt with status epilepticus. A peculiarly prescient paper in the field of epilepsy was that of Sanger Brown of Chicago in 1895, dealing with disorders of sleep and automatisms in epilepsy. While the treatment of epilepsy has been considered in almost every meeting in recent years, the interest in therapeutics has not been limited to the convulsive field.

In recent years, there have been critical evaluations of the treatment of (1) myasthenia gravis (Dr. N. S. Schlesenger, 1951), (2) Parkinsonism (Dr. R. W. DeJong, 1953), and (3) cerebral vascular accidents (Dr. Clark Millikan, 1952), to mention but a few. The neurological portion of the Section, however, has not become completely preoccupied with therapy, and the alertness of the Section was again shown when in 1936 there appeared a symposium on alpha potentials of the brain. This appearance on the program of papers on electroencephalography so soon after the discoveries of Berger indicates the good judgment of the officers in 1936, for they must have been almost prescient to have realized that this field was definitely here to stay. In 1940, the Montreal group of investigators, guided by Dr. Wilder Penfield, brought before the Section the status of electroencephalography in head injuries, and in 1941 there was an over-all review of electroencephalography by Frederick A. Gibbs. Since that time, electroencephalography has not been treated as such, for it has attained its majority and the threads of electroencephalography are woven into the over-all pattern, as, for example, by Dr. A. Earl Walker on the surgical treatment of epilepsy (1949), and by Dr. William G. Lennox on the hereditary factors in epilepsy as indicated by electroencephalography (1950). This maturation of electroencephalography, fostered by our section, reached its full bloom in the recent International Congress of Electroencephalography and Clinical Neurophysiology in Boston in August, 1953. Before leaving the field of neurology, an interesting note is that the first paper on aphasia before this section was in 1892. The author of that paper is still living and is the venerable centenarian from Cincinnati, Dr. Philip Zenner.

FIELD OF NERVOUS AND MENTAL DISEASES

Putting aside the three disciplines and their treatment as separate entities and turning now instead to the whole field of nervous and mental diseases, the Section has been duly interested in the various aspects of the total system, and history has evoked the interest of other chairmen and authors on the American Medical Association section program. In 1937 Dr. Henry Viets and in 1947 Dr. Stanley Cobb presented historical reviews of the field of neurology. Dr. Throckmorton, in 1941, reviewed the life and works of a former chairman, F. X. Dercum; and Dr. Henry Woltman, in 1934, rendered a historical account of Sir Charles Bell. In 1946, Dr. Percival Bailey, for his chairman's address, presented his critical review of the practice of neurology. Former chairmen have summarized the philosophies of each group, as, for example, Francis Gerty in psychiatry (1949), and Roland McKay in neurology (1945).

The interest in neurophysiology in this section has been strong over the last two decades. In 1934, John Fulton's school of cortical physiology presented a résumé of the physiological benefits in the field of cortical localization, and, in 1938, Larsell and Dow presented their data on the physiology of the cerebellum. The role of electroencephalography in the Section has already been discussed. The chief neuroanatomic contribution in recent years was that of A. R. Vonderahe, who in 1948 succinctly presented the role of anatomy in modern neurology. In the field of neuropathology, the contributions of the late George B. Hassin have been prominent before this section, beginning in a paper with Peter Bassoe in 1919, on epidemic encephalitis, and culminating in his chairmanship paper in 1933, on the circulation of the spinal fluid. The very first paper presenting microscopic pathological data was presented before this section in 1891, on a tumor of the pons, by Dr. L. Hektoen of Chicago.

This section not only has been concerned with its own fields, neurology, neurosurgery, and psychiatry, but has spent considerable time in working on boundaries between our specialties and other fields. In recent years there have been joint sessions, as in 1939, with the Section on Pathology and Physiology. This symposium was devoted to the vitamin deficiencies. In 1940 there was a joint session with opthalmologists, and an important contribution before this was that of Dr. Halstead and Dr. A. E. Walker, pointing out that macular sparing definitely could occur in hemianoptic field defects. In 1942 the problems of poliomyelitis and the problems common to the fields of neurology and orthopedics were discussed in a joint symposium. However, the boundaries between neurology and other fields are covered not only in symposiums but also by invitations to the program and the appearance before the Section of prominent men in other fields. In 1893, Sir William Osler discussed anorexia nervosa. In 1937 Dr. Armstrong presented his monumental data on lymphocytic choriomeningitis, showing that this was definitely a virus disease. In 1944 Dr. Ober presented the orthopedic therapy of poliomyelitis, and in 1946 Dr. Donald Lyle discussed visual field changes in central nervous system lesions. A fruitful liaison between other fields has been found in the realm of discussers; for example, in 1948, Dr. Joseph Stokes discussed a paper on neurosyphilis bringing out the viewpoint of the syphilologist to this particular facet of the field.

The men who have been prominent in this section down through the years present a roster of American neurology. The list is far too long to read. A full list of officers will be attached to the reprints of this paper. The election to the chairmanship is a fairly good assurance of at least one year of life. In the years the Section has met, on only two occasions has the chairman died before the meeting was held. These two chairmen who died in office were Dr. Pierce and Dr. Southard of Boston. A few of the outstanding former chairmen who are no longer living are Charles K. Mills (1892), Hugh T. Patrick (1899), Wharton Sinkler (1906), Morton Prince (1907), T. H. Weisenberg (1908), Dr. M. A. Starr (1909), F. X. Dercum (1915), Bernard Sachs (1917), Peter Bassoe (1922), George B. Hassin (1933), and H. Douglas Singer (1935).

This section of the American Medical Association has always held an attraction for our fellow specialists in other countries. The first foreign guest recorded was R. Burkhardt of Bonn, Germany, in 1891. In 1903 Sir Victor Horsley and Sir William Gowers were elected members of the Section. In 1914, Otfrid Foerster of Breslau and Wilfred Harris of London addressed the Section. In 1921 Richard Rows of London and Pierre Janet of Paris spoke. In 1922, S. A. K. Wilson attended the meeting. In 1945, Th. Alajouanine was the last foreign guest.

In reviewing the activities of this section over the long period of its existence, one cannot help but be proud to be associated with it, nor can one fail to ponder the possibilities of furthering the role of this section. Certainly it has discharged its duty to disseminate knowledge among physicians, and, in addition, when there is some problem that threatens the common good and is in the domain of the field of competence of this section, the members have risen to speak forthrightly and promptly.

FUTURE OF THE SECTION

Looking into the future, there need be no travail. There is no hint that the Section is in jeopardy from within or without. The direction of the Section passes through the hands of its officers in accord with the principle of the rule of the term of office. There is no danger of this becoming a captive organization. There are, however, certain problems, and certain points worthy of discussion. The first of these is the question of membership. There is no fixed membership for the Section, and any physician attending the American Medical Association Annual Meeting can register for the Section. This is quite proper, for no one is barred from attending our meetings. The formation of a fixed membership with encouraged transient membership would have many advantages. One of them might be the more regular attendance by men in these fields at the A.M.A. section meetings. There is not the feeling of belonging that exists in other societies in these fields. Men are often quite willing to come, present their papers, and quietly slip away, and, if they are not on the program, often they do not appear at the meeting at all. Another advantage in a fixed membership would be that, if it were ever felt necessary to set up a budget for the Section, it would be much easier to do so with a fixed membership.

The matter of budget is certainly not pressing. To the best of my knowledge there is only one section, that of ophthalmology, which happens to have a budget of its own and private funds. The chief advantages of this are the setting up of a prize and the publication of the transactions of the Section. The transactions of our section were formerly published but were discontinued in 1919. It does not, however, seem to be necessary at this particular time to publish transactions of the sections. The papers read before the Section are for the most part published in THE JOURNAL and usually quite promptly. Those papers presented here that are too technical for publication in THE JOURNAL appear in the specialty journals, particularly the *A. M. A. Archives of Neurology and Psychiatry*. During the five years of my active association with this section, there has been only one time when the absence of a budget proved to be somewhat of a disadvantage. This was shortly after World War II, when a steering committee was set up composed of the officers of psychiatric societies and the officers of our section had difficulty in attending the meetings or in appointing delegates to fill the offices, since there was no budget to meet this. This, however, proved to be a very minor disadvantage, for somehow the meetings were covered on a voluntary basis, and eventually this steering committee withered. There is no foreseeable similar problem in the future. However, a separate budget would make it easier for the Section to invite distinguished guests.

The scientific programs are ideal for their purposes and one can see no need for any change in the program. Distribution of papers within various fields, the geographic representation on the program, and the high quality of the papers all speak for the success of the Section. We might, however, do more to urge men from other fields to appear at this sounding board. Joint meetings with other sections have not proved particularly satisfactory; not because the meetings themselves have failed but because of the disadvantages that a symposium heaps upon the rest of the program of the Section on Nervous and Mental Diseases. Since we have three groups of physicians with their ancillary groups to accommodate within the specialties, and three days for the meeting, a symposium seriously cramps the functioning of this section.

The three groups became represented each on their own day in the Section in the year 1948. This segregation policy has certain advantages. It is possible for men interested only in neurosurgery, or in medical neurology, or in psychiatry to attend the Section meetings on one day, gather the grist from the mill, and go about other duties. It makes it possible for the judicious arrangement of the meetings to have this one particular group hold its meeting at a time most appropriate and in conjunction with one of the other society meetings. There is, however, a great disadvantage in this procedure, in that there is not the cross fertilization between the disciplines. It is obvious to those who preside over the meetings that the same men are not present from day to day, and particularly is that so of the specialists in these various fields. They attend their own day but do not stay to add their own deliberations and experiences to those of their colleagues. The members of the Section should give some thought to the advantages and disadvantages of this format of the program and convey their feelings to the officer.

There has been a peculiar and interesting trend in the development of the Scientific Sessions of the American Medical Association. The attendance at the scientific meetings of the sections has tended to remain static or to decrease, while the scientific exhibits have become more and more attractive. These improved exhibits are the direct result of the enthusiasm and the labors of Dr. Thomas Hull. Unfortunately, the scientific exhibits are frequently at a distance from the section meetings. From the standpoint of the specialist and of those interested in the growth of the Section, it would be advantageous to have the distribution of the scientific exhibits so they would be in juxtaposition to the appropriate section, for example, the scientific exhibit on the nervous system would be in the foyer of our own section meeting. This, however, would be disadvantageous perhaps for the over-all intent of the entire meeting. Again, this is a point that the members of the Section might wish to consider. Perhaps the name of the Section is somewhat outmoded and the membership might wish to consider modernizing it. I would, however, recommend that if this is done all three disciplines be included in the title, so that it be called the Section on Neurology, Neurosurgery, and Psychiatry. But the present title is superior, for it appeals to the nonspecialists and therefore should be retained.

The future of the Section depends upon the future of the constituent fields and of the American Medical Association. All are virile. Offices are rotated regularly, so there is no threat of capture or stagnation within the frame-work of the Section. The nervous system and its derangements remains a challenge to physicians in all categories, thus the over-all appeal of this section will not diminish in the foreseeable future. Certainly the painful evolution of the Section and the succeeding 68 years of progress in scientific medicine and in leadership augur well. The minor questions I have laid before you for your consideration underline the augury.

Massive Resection of the Liver.—The removal of a large portion of the liver is a relatively infrequent surgical procedure. Few surgeons have had much experience with the operation. Keen reported the first case in the United States in 1892, and in 1899 he removed the entire left hepatic lobe for carcinoma. In reporting this case, Keen included a table of 76 cases of liver resection from the world's literature. Warvi found a total of 570 resected cases of liver tumor to 1945, but in only 223 of the reports was there a complete description of the operations performed with confirmation of the diagnosis by microscopic examination. Tinker found 59 instances of liver resection performed by members of the American Surgical Association to 1939. He concluded that a busy abdominal surgeon at some time would likely encounter one or more hepatic conditions requiring resection. Conditions for which the liver has been resected include hemangioma, primary and metastatic carcinoma, gumma, tuberculoma and trauma. The most frequent indications for liver resection are hemangioma and carcinoma.—Julian K. Quattlebaum, *Annals of Surgery*, June, 1953.

EARLY DEVELOPMENT OF THE PSYCHIATRIST

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NOTE.—*The following paper is primarily of interest to medical students and to the younger graduates who are considering advanced studies in the field of psychiatry, many of whom are readers of* THE JOURNAL.—ED.

Psychiatry has been referred to as "the Cinderella of medicine," "the stepchild of medicine," and "the orphan of medicine." Whatever its relationship to medicine may have been in the past, the importance of psychiatry in present-day medical practice is being recognized increasingly, and its usefulness in relieving and preventing human suffering is steadily growing. It has grown rapidly in both its scientific knowledge and its popularity, but many of its aspects remain to be developed. Among the areas not yet fully charted are the problems and processes associated with the education of the psychiatrist. As a member of the faculty of the Menninger School of Psychiatry, where there are approximately 100 young physicians in training for this specialty, I have had many opportunities to observe and participate in the development of a number of psychiatrists. I propose to report from this experience my observations of, and preliminary formulations about, some of the processes involved in the maturation of the psychiatrist.

Psychiatry might be defined as that specialty of medicine that deals with the incongruous. The psychiatrist attempts to alleviate the suffering resulting from disparities between a person's emotional needs and the characteristic ways in which he tries to satisfy those needs. Until the advent of dynamic psychiatry, the incongruous behavior of the mentally ill was usually considered to be inextricably bound to mysticism. Without doubt, the greatest advance in psychiatry within the last 100 years has been the discovery that the riddles of even the most bizarre and abnormal behavior can be understood in terms of the complex functioning of the human organism.

Another incongruity associated with psychiatry is the one between the number of psychiatric patients and the number of trained psychiatric personnel. Personnel are needed at all levels, but here I will consider only the need for psychiatrists. There are about 490 public and private mental hospitals in the United States. These hospitals are overcrowded, with 750,000 mentally ill patients. In fact, over 50% of all hospital beds in the United States are occupied by patients with mental illnesses. The number of Americans who are in need of ambulatory psychiatric treatment can only be guessed at. For these millions of actual and potential psychiatric patients, there are about 8,000 psychiatrists. The latest statistics from the American Medical Association [1] indicate that over one-third of the 1,936 approved residencies in psychiatry are vacant at the present time. Although some 400 young physicians will complete their psychiatric residencies in 1953, an unknown number of psychiatrists will leave practice because of retirement, illness, or death. Almost 1,400 physicians are in psychiatric training at present, but this does not indicate that the incongruity between the number of patients and the number of psychiatrists will change perceptibly in the near future. Mesrop Tarumianz [2] recently estimated that a minimum of 20,000 psychiatrists are needed in the United States to meet the demands of those who recognize the need and importance of psychiatric treatment and psychiatric preventive work.

To study this situation, the American Psychiatric Association held a conference on psychiatric education at Cornell University in June, 1951. The 82 participants included deans of medical schools, leaders in the medical specialties, including psychiatry, and administrators of government agencies and private foundations concerned with medical education. The purpose of this conference was "to promote and preserve the health of the community: by investigating, defining, and helping to develop programs which will improve the teaching of basic and clinical psychiatry; by advancing the medical skills needed to recognize and treat mental illness and emotional maladjustment; by coordinating the efforts of all groups concerned with these problems so that their total resources may be used more effectively." [3]

When the causes of this shortage of psychiatrists are considered, it is noted that the opportunities in the field are multitudinous, yet every area of psychiatric practice, education, and research needs more personnel. There are several factors that inhibit medical students from choosing this specialty. In 1940, Dr. Karl Menninger was asked by one of the chapters of Phi Beta Pi medical fraternity to fill their annual lectureship. The students said that they were particularly eager to have it filled by a psychiatrist, so Dr. Menninger accepted the invitation. After the lecture he stopped at the fraternity chapter house, where, to his surprise, he was asked many questions about psychiatry, the opportunities available in the field, and the opportunities for postgraduate training.

Dr. Menninger was so astonished by the students' apparent interest in psychiatry that he determined to try to learn from other medical students why so few selected it as a career. He visited 12 medical schools in 1944 and talked informally with many medical students. Other members of the Menninger Foundation staff did the same. In 1949, I visited 16 medical schools and used a questionnaire developed by Dr. Menninger, which was devised to sample the attitudes of medical students toward psychiatry. The completed questionnaires documented crucial facts. They revealed the following composite opinion about psychiatry: Psychiatry is vague, ethereal, and mystical; it is divorced from good medicine; it is too subjective; there is a lack of personal gratification in the practice of psychiatry; there is no future in this specialty; the practice of psychiatry requires more ability than other specialties; most psychiatry is practiced in

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Staff psychiatrist, Menninger Foundation.

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[1] Approved Internships and Residencies in the United States, report of the Council on Medical Education and Hospitals, J. A. M. A. **150:** 275-377 (Sept. 27) 1952. Medical Education in the United States and Canada, report of the Council on Medical Education and Hospitals, ibid. **150:** 99-130 (Sept. 13) 1952.

[2] Tarumianz, M. A.: The Opportunities of the Menninger Foundation in the Perspective of Time and Distance, Menninger Quart. **6:** 20-26 (Dec.) 1952.

[3] Psychiatry and Medical Education, Whitehorn, J. C., editor. Washington, D. C., American Psychiatric Association, 1952.

institutions; psychiatry is irreligious; psychiatry does not help anyone; psychiatry is concerned only with diagnosis and not with treatment. Being psychiatrists, we were eager to discover the origin and development of these expressed attitudes and the way they could be changed.

Before exploring these questions further, I began teaching psychiatric aides.[4] In this situation I had a rare opportunity to observe the attitudes of lay persons toward psychiatry and mentally ill patients. Perhaps even more important, I observed how these attitudes changed and I evolved some hypotheses as to what caused them to change. Along with my colleagues,[5] I soon learned the importance of the basic attitudes toward psychiatry that the new attendant brings with him to the mental hospital. These attitudes seriously affect the quality of the attendant's care of patients. They may also determine whether the attendant remains in the work or seeks other employment. We found that a large part of an educational program for attendants involves providing learning experiences in which he has an opportunity to examine his attitudes and to change them. He is concerned from the outset of his employment with the following questions: 1. Will I get hurt? 2. Will I go crazy too? 3. What is expected of me? 4. Will my efforts make any difference? These personal questions reflect many of the attitudes that are common about psychiatry. The mentally ill patient is often thought of as someone whose behavior is always extraordinary and who, if unleashed, will kill and rape. Mental illness is believed to be contagious, irreversible, incomprehensible, and hopeless. It is doubtful that the new attendant can be taught much about the techniques of psychiatric nursing until he has changed his original attitudes toward mentally ill patients and has found answers to these penetrating and disconcerting questions.

My more recent experiences with psychiatric residents leave me with the unavoidable and uncomfortable conclusion that many physicians arrive for postgraduate training in psychiatry with only a limited knowledge of its fundamentals. I have found the same questions that are asked by new attendants to be foremost in the minds of most residents. Believing that these observations have important implications for psychiatric education, I have attempted to explore their meaning. Even though I have not been able to study the problem with any formal research method, I wish to describe some of the factors that seem to be present in the growth process of the physician who decides to become a psychiatrist. My primitive attempt to study the problem will stimulate others, I hope, to investigate more fully and more scientifically this aspect of medical education.

DIFFERENCES BETWEEN PSYCHIATRIC AND MEDICAL PRACTICE

Traditionally, the young psychiatrist has begun his training in the large mental hospital, caring for psychotic patients. I do not question the validity of this tradition; I wish only to call attention to the fact that it continues and that my formulations are based on observations in a setting where it is in practice. I believe the nature of the physician's initiation into psychiatry, as traditionally practiced, definitely influences his growth as a psychiatrist. It leads him to believe that the clinical practice of psychiatry in a mental hospital with psychotic patients is significantly different from the clinical practice of general medicine and surgery. Much has been done, by improving psychiatric teaching in medical schools, to influence this assumption; the objective of medical educators has been to prove it false. In my experience the assumption still holds true for many residents, and, because of it, such a physician who chooses psychiatry for specialty training has to make significant adaptations as a physician after he enters training in psychiatry.

This assumed difference between psychiatric practice and other medical practice is actually more illusory than real. But because of the resident's relative inexperience with psychiatry as a body of knowledge, with its clinical practice, and with the mental hospital, the difference is starkly real for him. To erase this illusion in medical education, psychiatry must be integrated into general medical education and the medical student must be provided with more meaningful experiences with psychiatric patients. The training in psychiatry in many medical schools is inferior to the training in all other specialties. Perhaps there is an even more basic problem facing the medical educator who wishes to better prepare the medical student in psychiatry. It has been found that many physicians who wish to begin their postgraduate training lack adequate education in the basic sciences of psychiatry—psychology, psychopathology, and sociology. The sciences basic to psychiatry have not yet been considered seriously as sciences basic for all medical practice. All too often, the premedical student has to surreptitiously avoid his premedical adviser if he wishes to enroll in courses in psychology and sociology as well as in the humanities. Because of these many factors, the new psychiatric resident is repeatedly confronted with differences from the medical environment within which he spent his early formative professional life. These differences can be divided into four categories: (1) differences in the patients, (2) differences in the nature of the psychiatric hospital, (3) differences in the treatments used, and (4) differences in the role of the physician.

DIFFERENCES IN THE PATIENTS

In every culture, certain persons are set apart by the group as those who will treat the sick. As the medical student becomes trained, he becomes familiar with a basic pattern in human behavior—when a person experiences pain, he usually goes to another person for relief from that pain. The important role that pain plays in bringing patients to medical attention is commonplace in the physician's experience. The new psychiatric resident soon learns that the role of pain in mental illnesses may be different. The hospital resident in psychiatry may observe that more of his patients are brought to the hospital than seek hospitalization voluntarily and that many of these patients appear to be singularly free of pain. From this he may falsely assume that pain is not a characteristic of mental illness. Through experience, he discovers his mistake and gains respect for the self-curative powers of the human psyche. He finds that abdominal rigidity, elevated temperature, leukocytic response, and involuntary splinting all have their counterparts in psychic illness. The resident comes to realize not only that pain does exist in mental illness but that, judging from the severe reactions to it, it must be the most excruciating of all human suffering. The human organism mobilizes heroic defensive measures to achieve analgesia from psychic suffering.

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[4] The greatest shortage of psychiatric personnel is in nursing personnel. There are only 11,000 nurses, a fraction of what is needed to care for 750,000 hospitalized, mentally ill patients. Untrained persons are hired to assist with nursing care. These lay workers are called "attendants." There is a tendency now to call them "psychiatric aides," particularly if they have had the benefit of some in-service training.

[5] Hall, B. H., and others: Psychiatric Aide Education, Menninger Clinic Monograph Series, no 9, New York, Grune & Stratton, Inc., 1952.

To the uninitiated, the psychiatric patient's attitude toward his illness may appear to be perverse. Prior to his psychiatric work, the physician may never have known a patient who would not readily admit to his discomfort and to the fact that he was sick. Some psychiatric patients deny that they are sick, avoid stubbornly the implications of their illnesses, and may even attribute the illness to others by saying, "I am not sick; they are the ones that are sick." Such a patient's attitude toward his illness results from factors that, for the patient, are justified; it is not the result of obstinate perversity, as the new resident may think. For some human beings to admit their need for help with personal problems is, for them, equivalent to an attack on their self-integrity, and, as a result, such persons must defend themselves constantly and deny any need for help. The resident finds not only that the psychiatric history deals with the most intimate aspects of a person's life and that the tabooed topics of ordinary conversation become important topics of psychiatric investigation but that for some patients to admit the presence of certain conflicts means that they can no longer deny that the conflicts exist—now it is known to another, so now it is official. Experiences like the one related below soon teach the resident that the patient's expressed attitude toward his illness is not always the same as he subjectively experiences it.

> It was the 17th day of the physician's residency in psychiatry. He reported to his consultant that he had been exasperated by a patient on his ward. The patient constantly demanded time with the physician, only to complain about being held in the hospital against his will. "Lately," the resident added, "the patient has threatened to write his senator and expose this supposed injustice." The consultant asked the resident what he felt like saying to the patient when plied with these demands to be released. The resident answered promptly, "Why, he's too damned sick to leave the hospital." The consultant suggested that the patient would be relieved if he knew that the resident recognized how sick he was. The consultant pointed out that it must be very frightening to feel that one's desperate need for help might not be recognized and that such a patient might try indirectly to determine whether the physician really appreciates his desperate state. The next day the patient again encountered the resident and asked, "When are you going to let me out of this jail?" The resident replied, "When I think you are well enough to leave." The change in the patient's attitude was dramatic. The consultant was credited by the resident with being a man of great wisdom, and the consultant noted in his evaluation of the resident, "Dr. X is beginning to use common sense in his everyday management of psychotic patients. . . ."

The new resident has much to learn about talking with psychiatric patients. Perhaps it is in this area of communication that the resident discovers the greatest difference from his earlier medical experiences. It is not difficult for anyone to describe the pain he experiences during an acute attack of cholecystitis, but it may be difficult to express the frightening experience of a hallucination. The word nervous may mean anything from a slight frustration to the crippling panic associated with feelings of unreality common in the incipient stage of schizophrenia. There are thousands of patients who cannot tell the physician what they feel and what they experience as sickness because they cannot yet trust the physician enough to talk to him about their subjective experiences. My own initiation to talking with a psychotic patient and my reaction to the experience is not uncommon in the early days of being a psychiatrist.

> Having just finished an internship and being impressed with my own ability to size up a medical problem promptly, I asked a new hospital patient to come with me to my office for an interview. After seating ourselves in the office, I began the interview by asking the patient why he was in the hospital. His answer was equally abrupt: "What the hell difference does it make to you?" Not only was this answer unexpected, it temporarily paralyzed me. I entertained fantasies of being beaten by this now classified as "paranoid" patient. But my own defenses served me well, for I concluded that this patient was "too sick to try and talk to," and, as abruptly as I had initiated it, I terminated the interview. Later my supervisor demonstrated what I thought was superior skill with this patient. The patient was not paranoid at all and talked fluently to my supervisor. I noticed, however, that my supervisor behaved differently than I had with the patient. He offered the patient a cigarette and talked about the patient's home town, the fact that that town was known for its high school basketball teams and that the patient had been center on a winning team from that town when he was a senior.' This all appeared interesting to me, but I was impatient with the supervisor. I noted, however, that when he asked the patient, after some 20 minutes of this chitchat, "Well, what brings you here?" the patient freely told the supervisor the story of his recent illness.

Closely associated with the difference that the resident finds in psychiatric patients from medical and surgical patients is the difference in the role of the patient's family in psychiatric care. The patient is a member of a social group and a family, and his sickness develops while he is a member of that group. This fact may lead to certain reactions to the patient's illness on the part of the other members of the family group. For example, the relatives may feel that they have been responsible for the patient's illness and may attempt to assuage their guilt by well-intentioned behavior, which may interfere with the patient's treatment. On the other hand, the relatives may find it necessary to deny the seriousness of the patient's illness and resist accepting the full significance and implications of the illness. They may seek relentlessly what might be called the organic out: "Doctor, are you sure that John does not have a brain tumor?" They recite numerous reports of cases in which persons behaved just like John at another clinic; a brain tumor was found, and after it was removed the person was all right. It is easier to explain the aberrant behavior of a son to the neighbor next door if it can be accounted for on an organic basis. It is no wonder that the term nervous breakdown is prostituted into ambiguity.

Simmel[6] has underscored the resistance that relatives and friends may manifest toward the patient's recovery. If a mother has babied her son all of his life because she is continuously frustrated by an unhappy marriage and needs to feel that another human being is helpless and fully dependent on her, that mother may unwittingly attempt to defeat the purpose of treatment, which is aimed at freeing her son for a life of his own. I recall the letters that one mother wrote to her hospitalized son; they were love letters. It was not surprising when later this same mother found it necessary to take her son from the hospital prematurely and against medical advice. In such situations, the resident may wonder whether the mother should not be the patient; thus, he learns that in psychiatry one may often best treat the patient indirectly by treating the relative of the patient.

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[6] Simmel, E.: Psycho-Analytic Treatment in a Sanatorium, Internat. J. Psycho-Analysis 10: 70-89 (Jan.) 1929.

DIFFERENCES IN THE HOSPITAL

The sheer size of many psychiatric hospitals presents adjustment problems for the new resident. But the psychiatric hospital is vastly different from the general hospital, where the embryo physician spent his early professional life. The resident soon finds that he must learn new procedures of personal conduct on a closed psychiatric ward. Embarrassed, he may confess to the nurse that he left his ward key somewhere while he was making the rounds. Only then does he fully realize that the key is lost on a ward where there are six patients who are "elopement risks." Deeply chagrined, he helps the nursing personnel begin a systematic search of the ward for the lost key; he avoids their surreptitious, impatient glances at him and interprets them correctly: "When are you ever going to learn?" The physician usually does not learn the tricks of personal conduct on the closed psychiatric ward until after he begins his postgraduate training.

Gradually the resident learns that the psychiatric hospital and its environment is an important therapeutic tool. For example, he learns that maintaining an environment in which a patient cannot commit suicide is the very essence of the treatment of the suicidal patient. He finds that a large part of psychiatric hospital practice lies in the controlled, planned use of the hospital environment. He begins to gain the same medical acumen in prescribing the use of tennis courts, occupational therapy shops, discussion clubs, and room and ward assignments that he previously used in prescribing digitalis for a patient or in maintaining a proper electrolyte balance in a vomiting patient after operation.

DIFFERENCES IN TREATMENT

The physician not only is acquainted with human beings seeking him out for the relief of their pain but is also accustomed to being able, in most instances, to give them some relief. This leads to the difference in treatment that confronts the psychiatric resident. The following report demonstrates how the new resident psychiatrist may respond to the patient's requests for help and how he may misinterpret the significance and meaning of these requests:

> The patient's problem centered around his chronic use of alcohol. He was brought to the hospital by his mother. She was worn out by attempts to control him and also financially exhausted from his alcoholism. The patient presented the resident with a different symptom each time he saw him. There was only one thing slightly irregular about this: the symptoms were all somatic. When the resident called in the consultant, the patient was receiving aspirin three times a day, treatment for dermatophytosis, and sedation at bedtime. A roentgenogram had been ordered because the patient said he thought he had arthritis in his back—"always had pain there." The patient had already been sent to the eye clinic for a re-refraction because he reported that he could not read fine print any more, and a tooth that had lost its filling three years ago suddenly had become painful after the patient was hospitalized. The consultant noted all this and then asked the resident what he thought about these studies and treatments. The resident replied that he did not think any of them were very important, actually, but he did not know what else to do with the patient. The consultant commented that the patient seemed to be receiving treatment for everything but the problem that had brought him to the hospital—his excessive use of alcohol. The resident then volunteered, "But he never says anything about that." In the discussion that followed, the consultant helped the resident to understand that in this instance overattention to the patient's many physical complaints was a way of joining with him in an avoidance of the problem that really needed treatment.

The resident has not been in psychiatry for many weeks before he longs for the specific treatments that he used in medicine and surgery. He recalls that it was easier to calculate, measure, and administer the required cat units of digitalis than he now finds it to calculate, measure, and administer the appropriate amount of passive interest to show toward an assaultive, paranoid patient. He must decide what to do when there is no tumor to extirpate, or drug to measure, for the treatment of the withdrawn schizophrenic patient. Because the concepts of etiology and pathogenesis in psychiatry are far behind similar concepts for most medical and surgical diseases, the rationale in psychiatric treatment is less defined. There are few specific measures at one's disposal for the treatment of the mentally ill.

The physician learns as a part of his medical training to depend on other professional personnel to provide much of the indicated care of the patient. Chances are, however, that he never realized the full extent to which the psychiatrist must learn to work through other personnel. The novice psychiatrist finds that his relationship with the head nurse on the psychiatric ward is of primary importance. His best planned psychiatric treatment can be wasted if he fails to provide the needed supervision for the nurses, psychiatric aides, occupational therapists, and others who may execute this treatment program and whose direct contribution to the patient's treatment may be more obvious than his own. Learning to capitalize on the potential contributions of the social worker and psychologist, who have particular skills to contribute to the care of the patient, is also a part of the psychiatrist's early development.

DIFFERENCES IN THE ROLE OF THE PHYSICIAN

No physician escapes leadership responsibilities. Providing direction and education for personnel as well as for patients is a part of the heritage of the physician; but perhaps the expectation and necessity of a leadership role reaches its height in medicine in the practice of psychiatry. The practice of psychiatry requires, in most instances, the assistance of other professional personnel, and the psychiatrist is called on, particularly in psychiatric hospital practice, to provide the necessary leadership for a team of professional experts. Preparation for this leadership is an essential part of any psychiatric residency training program.

Early in his medical training the physician learns of the importance his remarks and gestures have for the patient. The patients put their lives in his hands, and they listen attentively to his counsel and advice and follow his treatment recommendations, often without question. Every physician knows that his relationship with the patient is his most powerful therapeutic weapon. It often takes some time before the new psychiatric resident appreciates the singular importance of the physician-patient relationship in psychiatric treatment. Many of his early problems are related to his learning how to make the greatest use of his interpersonal relationship with patients. These early problems include many periods of frustration, when he does not know what to do with the psychiatric patient, feels impotent as a physician, and seeks out the "medical" cases on the ward. The psychiatric patients assigned to the new resident receive a superior quality of attention to, and care of, their organic troubles.[7] The resident's order sheets for such patients are characterized by four categories of treatment: (1) laxatives, (2) treatment for epidermophytosis, (3) medicaments for minor upper respiratory tract infections, and (4) analgesics. Precise orders to implement psychiatric treatment are rare in the clinical charts of patients under the care of first year residents.

Without doubt, the most significant cause of the new resident's awkwardness on the psychiatric ward is that he does not know what to do. He is a physician, but none of his patients need the kind of treatment requiring scientific use of the stethoscope, the pharmacopoeia, or the scalpel. To further complicate matters, the patients are usually ambulatory and appear to be in excellent physical condition. This is a tremendous frustration for the newly trained physician; few of his skills, which he has worked so long and hard to acquire, are now of any use to him. Actually, he will need all of those skills acquired in his earlier medical training and experience in the practice of psychiatry, but he needs additional skills, and it is the latter about which he feels incompetent and disturbed.

In psychiatry, the new resident often finds himself alone with the patient with no armamentarium, nothing but himself. Gradually he learns that the scientific use of the self is the very essence of psychiatric treatment. He begins to realize that a smile can be as therapeutic for some as an attenuated typhoid bacillus can be for others, that there are indications and contraindications for body contact with mentally ill patients, and that there are psychiatric risks of life and death, just as there are similar surgical risks. He finds that a lack of insight into his own feelings about a patient can be as deadly as a toxic dose of a drug. He begins to experience the power that exists within him for the treatment of human suffering. He experiences early the power of the physician-patient relationship and begins to realize the importance that he can have in the lives of the mentally ill.

It often takes some time before the resident fully appreciates this importance that he has for the patients in his care. One resident recently learned this forcibly. After having been assigned to a particular ward for several weeks, the resident left for three days to move his family to Topeka. When he returned to the ward he found things to be different. Patients who were ordinarily friendly and cooperative toward him were, after his return, querulous and argumentative, and, in the resident's own words, "they acted like a bunch of sulking kids." The resident began to understand that not only are there techniques of beginning a physician-patient relationship but that there are equally important techniques involved in temporarily interrupting and in terminating a therapeutic relationship. Gradually the young psychiatrist learns that, through the planned, measured use of his own personality, many persons can be freed of the psychic forces that prevent them from enjoying a full and productive life.

COMMENT

This discussion of some of the problems involved in the maturation of the psychiatrist may have had an unsalutary effect on the reader who may be thinking about a future in psychiatry. In conclusion, I would like to emphasize the satisfying rewards that the psychiatrist realizes as he grows professionally. After I left medical school my sense of mastery soon crumbled, and one of the most important things that I learned in my internship was that "it is not all in the books" and "I've still got a lot to learn." Every physician resigns himself early in his professional career to the fact that his medical life is like all life processes—a continuous, dynamic process, and that unless one is willing to allow a kind of personal professional atrophy, one must remain curious, be investigative, and experience daily the pains of professional growth. Few physicians would have it otherwise. No specialty training is devoid of problems for the student.

But what personal reward is there for the psychiatrist who must experience so many problems that are highly colored with very personal meanings? One does not work with psychiatric patients for long, particularly with psychotic patients, before one feels a challenge to learn more about how to relieve mental suffering. One's scientific curiosity is constantly provoked in psychiatric work, and the opportunities for research are unlimited. Like all professions and like all medical specialties, psychiatry suffers from the lack of good teachers. Any who find particular satisfactions in teaching others can easily realize such aspirations in psychiatry. The financial opportunities in psychiatry are attractive. In psychiatry one may work in institutional practice, private practice, medical schools, research, or any combination of these, and realize a substantial income.

But these are not the really basic and cherished satisfactions in the life of any physician. Similar rewards exist in nearly every specialty of medicine, and no other group of men are held in such high regard and with such esteem as are physicians. This is probably true because physicians, as a profession, have been steadily growing as a group of men and women who are known first of all for their humanitarian interest in man. The phrase interpersonal relationship is nowadays used by some as if it had just been coined. Physicians have merited their respect because they have long recognized the importance and objective counsel, as well as treatment for the relief of human relationships and in their relationships with their patients have offered sympathetic understanding of pain.

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[7] One woman resident was very pleased with herself, when, in her early days at the hospital, she was able to diagnose correctly a case of mumps in one of her psychotic patients. This opportunity to prove herself a competent physician came at a time when she felt particularly incompetent in managing the psychiatric problems of her patients.

Dynamic psychiatry, because of its preoccupation with the treatment of suffering for which there is no organic basis, has likewise become preoccupied with the physician-patient relationship. Perhaps it is in the area of the scientific study of the art of medicine that psychiatry has made and will make its greatest contribution to medical knowledge. For the young physician who wishes to learn scientifically the artful use of his personality, psychiatry, perhaps more than any other specialty of medicine, offers the golden opportunity. The reward offered is that his daily professional work will provide many opportunities for him to grow in stature as a person.

The misunderstood, mentally ill have been mistreated and neglected in the past. These are the patients that the psychiatrists care for every day—those who often are rejected by society, by family, and by friends, The lonely, the sick at heart, the confused, and the despondent are the clientele of the psychiatrist. Included are those whose productivity and potential for happiness have never been realized. The reward that comes to a psychiatrist in personal satisfaction from relieving the tortures of mental suffering is very real, though it is difficult to describe. The psychiatrist must work with the patient for a long time and must, therefore, defer his feelings of satisfaction for a long period; just the same, they are realized. Imagine the pleasure that comes to the psychiatrist who, through a number of years of hard work with a very sick schizophrenic patient, sees that patient slowly freed of his psychic limitations and achieving the maturity that was his biological destiny. Frequently, the patient had been restrained from this by conflicts within him that grew out of his early life experiences that he could not, with all of his natural curative processes, overcome by himself. But with the help of the psychiatrist's continued, prolonged, objective, sympathetic interest and skill, the patient gradually frees himself from a life determined by illness and lives to destine his own fate. This freedom allows him to find a healthy expression for that resourceful, creative, living dynamism known as the human spirit.

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PROPHYLAXIS OF ALLERGIC DISEASE IN THE NEWBORN

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Pediatricians and pediatric allergists have often observed that food sensitivities occur much more frequently in the first few months of life than in later infancy, childhood, and adult life. It is assumed that a physiological immunologic immaturity exists in the early months of life that results in sensitization and clinical symptoms caused by absorption from the intestinal tract of unaltered proteins in potentially allergic children. A potentially allergic child is a child who has at least one allergic parent or sibling.[1]

Evidence that infants absorb unaltered protein from the gastrointestinal tract is well established.[2] Actually, as Walzer [3] has indicated, this takes place qualitatively at all ages; quantitative studies have not been made. In the late 1920's Glaser [1] observed frequent intolerance of egg yolk in infants when the food was introduced at the age of three months and rare intolerance when the food was introduced at the age of nine months or later. As a result of this observation it was postulated by analogy that if cow's milk protein, which constitutes the chief source of food and is the commonest cause of food allergy in the early months of life, were completely withheld from the infant's diet until this period of physiological immunologic immaturity passed, the symptoms of milk allergy might be minimized or even prevented.

A previous study [1] demonstrated the practicality of feeding infants from birth on a diet in which a soybean milk formula (Mull-Soy) completely replaced cow's milk. It was possible to feed successfully all but less than 15% of newborn infants on such a substitute for human milk or cow's milk.

The purpose of this study was to determine whether completely withholding cow's milk from the diet of potentially allergic newborn infants through the early months of life would influence the development and magnitude of major and minor allergic diseases not only during that period but also after the addition of cow's milk to the diet at a later age. The difference between major and minor allergy is largely one of degree. We consider the presence of any asthma as evidence of a major allergy, but a small area of atopic dermatitis (eczema) that responds promptly to treatment or a transient urticaria or a gastrointestinal reaction to an unimportant specific food like squash, for example, is considered a minor allergy. Minor allergies in this study did not present problems of any significance and, therefore, are not considered in detail.

METHODS

The experimental group of 96 infants were all either offspring or siblings of one or more persons with one or more allergic diseases, i. e., asthma, atopic dermatitis (eczema), pollinosis (rose or hay fever), and perennial allergic rhinitis. Cow's milk was withheld from each infant from the day of birth. Eighty-eight were given soy-

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[1] Glaser, J., and Johnstone, D. E.: Soy Bean Milk as a Substitute for Mammalian Milk in Early Infancy, Ann. Allergy **10**: 433, 1952.

[2] Ganghofner and Lagner, J.: Ueber Resorption gemeiner Eiweisskörper im Magendarmkanal neugeboriner Tiere und Säuglinge, Münch. med. Wchnschr. **51**: 1497, 1904. Anderson, A. F.; Schloss, O. M., and Myers, C.: The Intestinal Absorption of Antigenic Proteins by Normal Infants, Proc. Soc. Exper. Biol. & Med. **23**: 180, 1925-1926. Ratner, B., and Gruehl, H. L.: Passage of Native Proteins Through the Normal Gastrointestinal Wall, J. Clin. Invest. **13**: 517, 1934. Wilson, S. J., and Walzer, M.: Absorption of Undigested Proteins in Human Beings: Absorption of Unaltered Egg Protein in Infants and Children, Am. J. Dis. Child. **50**: 49, 1935.

[3] Walzer, M.: Absorption of Allergens, J. Allergy **13**: 554, 1942.

bean milk; three were exclusively breast fed; and five were given meat base formulas.[4] In order to minimize the chances of sensitizing an infant through breast milk, eggs, foods consisting largely of eggs, and all cheeses were omitted from the mother's diet; the cow's milk intake was limited to a pint a day boiled 10 minutes, and a variety of the permitted foods was recommended. A sufficient intake of calcium and phosphorus was assured by suitable medication. When the mother could not or would not nurse or the breast milk failed, the child was given soybean milk. The starting formula usually consisted of one-third soybean milk and two-thirds water and was increased to equal parts of soybean milk and water as the infant became accustomed to it.

The ages at which cow's milk was introduced into the diets of the infants were: under one month (5), one to three months (19), three to six months (17), six to nine months (50), and over nine months (5). Their allergic histories were reviewed up to the time of this writing for the incidence of allergic disorders previous to and after the introduction cow's milk into the diet. The follow-up periods were 7 to 12 months (15), 1 to 2 years (14), 2 to 5 years (45), and 5 to 10 years (22).

The histories of 70 siblings of infants in the experimental group were reviewed for the same data, as a control group. Only 65 were included in the control group, since the other 5 could not be followed as long as their counterparts in the experimental group. It was recognized, however, that such an experimental group might have a greater incidence of allergies than would occur by chance in a random sampling of potentially allergic children, since many of the infants were placed on the experimental regimen because their siblings had atopic dermatitis, asthma, or some other major allergy. Consequently a second control group of 175 subjects was chosen from the histories of 4,710 children in 1,215 allergic families. These children were followed for the same number of years as their counterparts in the experimental group and had the same number of younger siblings with similar allergic histories. Their parents also had allergic histories closely resembling those of the parents of children in the experimental group. Members of the sibling and the nonrelated control groups were considered to have allergic disease only if their symptoms had occurred by or before the age of their counterparts in the experimental group.

RESULTS

The incidence of major allergy in the three groups is shown in the table. As far as they have been followed, 14 (15%) of the experimental group have shown major allergic diseases as compared with 42 (64%) of the sibling control group and 91 (52%) of the nonrelated control group followed to comparable ages. Thus approximately four times as many infants in each of the two control groups had major allergic diseases as in the experimental group. The probability that this difference is due to chance is less than one in a hundred (chi square = 16, $P <$ than 0.01). The differences among the groups in the incidence of atopic dermatitis and the incidence of major allergic diseases subsequent to atopic dermatitis are significant (chi square = 19 and P is < 0.01 for the incidence of atopic dermatitis and chi square = 6 and P is < 0.01 for the incidence of sequelae to atopic dermatitis). The incidence of milk allergy and the subsequent occurrence of major allergic diseases in these infants are likewise statistically significant (chi square = 20 and P is < 0.01).[*]

One very interesting family in this survey consisted of five children, all of whom were allergic to cow's milk at birth. In two of these, cow's milk caused atopic dermatitis and in two others, both atopic dermatitis and asthma. By contrast, the fifth sibling, who was given soybean milk from birth, has not had any major allergies by 6 years of age, despite the fact that he had diarrhea from cow's milk at 8 months and still cannot tolerate it.

COMMENT

Perhaps the greatest significance of these findings is the possibility of applying the general principles of prophylaxis to the immunologic and allergic management of potentially allergic children. Pediatricians have been concerned with the physical and mental growth and development of infants, with emphasis on prevention of infections and nutritional, orthopedic, orthodontic, and psychogenic diseases. Now it may be possible to reduce the incidence of major allergic syndromes, which are such a perplexing part of a pediatrician's responsibilities. Any measure that may reduce the incidence of atopic dermatitis is important in view of MacKinney and Glaser's[5] statement that 80% of infants with atopic dermatitis in infancy have a major respiratory or other allergy by the age of 6 to 10 years.

Incidence of Major Allergy in Children

	No. of Patients	Incidence of Major Allergy	Atopic Dermatitis and Sequelae	Allergy to Cow's Milk and Sequelae
Experimental group	96	14	7 (1 had asthma at 3 years, 6 free of allergy at 6 years)	7 (none at 6 years)
Sibling control group	65	42	21 (15 had major allergies between 4 and 6 years * 6 free of allergy at 6 years)	24 (22 had major allergies at 6 years) †
Nonrelated control group	175	91	50 (30 had major allergies by 5 years,‡ 20 free of allergy at 6 years)	53 (26 had major allergies at 6 years) §

* 10 asthma, 4 pollinosis, and 1 perennial allergic rhinitis.

† 11 asthma, 6 chronic atopic dermatitis, 4 pollinosis, and 1 perennial allergic rhinitis.

‡ 24 asthma and 6 pollinosis.

§ 24 asthma, 1 pollinosis, and 1 pollinosis and perennial allergic rhinitis.

The regimen outlined must be instituted from the moment of birth. To give a potentially allergic newborn infant cow's milk as a trial formula ignores the basic premise of this paper, namely that these children have an immunologic immaturity in the first few months of life that makes them especially predisposed to become sensitized to the first foods introduced into the diet. There is also evidence, although unequivocal proof is lacking,[6] that the fetus may be sensitized to foods ingested by the mother. For this reason, during pregnancy many of the mothers in our experimental group were placed on the special diet previously mentioned for use while nursing to reduce the likelihood of sensitizing their offspring to particular foods, especially eggs and milk. While we have no evidence that this diet actually accomplishes its purpose, we believe that its use is reasonable on theoretical grounds, particularly since it can do no harm. Before any infant was started on the milk-free regimen, the mother was encouraged to attempt a trial of complete breast feeding. This was done because the studies of Grulee and Sanford [7] had clearly shown that the exclusively breast fed infant has seven times as many chances of escaping eczema as the infant fed cow's milk; however, we were unsuccessful in getting any significant number of mothers to do this.

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[4] Glaser, J.: Substitutes for Cow's Milk in Infant Feeding, J. Pediat. 42: 734, 1953.

[*] Dr. S. Lee Crump, assistant professor of radiation biology and chief of the Section on Statistics of the Atomic Energy Project of the University of Rochester, made the statistical analyses.

[5] MacKinney, L. G., and Glaser, J.: The Incidence and Progression of Allergic Syndromes in Children, Ann. Allergy, to be published.

[6] Walzer, M.: A Critical Review of the Recent Literature on Physical Allergy, Intrauterine Sensitization, the Mechanism of Specific Treatment in Hay Fever, Hypertensitiveness in Monkeys, J. Allergy 9: 64, 1937.

Along with cow's milk, certain other foods such as eggs, beef (closely related chemically and immunologically to cow's mik), and wheat should also be withheld from the diet of a potentially allergic infant until after the period of immunologic immaturity has passed. From Glaser's [1] observations on egg yolk, this period is presumed to vary from between six and nine months. We prefer to feed the potentially allergic infants breast milk, soybean milk, or meat base milk [4] rather than cow's milk and completely withhold the foods mentioned. Sensitization to soybean milk or to the meat base has not yet been unequivocally observed in our experience; however, it may be expected, since such sensitization appears to depend to a certain extent on age and the length of the period during which a food is given. In this event the infant may then be given other meat base milks, or even cow's milk, with presumably less danger of permanent sensitization or sensitization of long duration.

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[7] Grulee, C. G., and Sanford, H. N.: The Influence of Breast and Artificial Feeding on Infantile Eczema, J. Pediat. 9:233, 1936.

DIFFERENCES IN CALF CIRCUMFERENCE AS DIAGNOSTIC GUIDE TO THROMBOPHLEBITIS

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Since thrombophlebitis may provide a source of potentially fatal pulmonary emboli or may herald occult malignant conditions, its early detection can be lifesaving. As White [1] recently emphasized, "We must everlastingly [look to] the leg veins" in pulmonary embolism; the diagnosis can only be decided clinically.[2] It is generally agreed that calf measurement is an important diagnostic procedure. Although mensuration is but one of several criteria for establishing the diagnosis, it occasionally becomes crucial, for example, when the presence or degree of swelling is questionable or leg and chest pain have recently occurred. In the latter, the patient may be afebrile; physical examination shows only a difference between the two calf girths, and laboratory data and chest roentgenogram interpretation are equivocal. The frequency of such cases on the medical service of a general hospital has directed attention to the significance of difference in calf circumference.

In neuromuscular diseases and those of bones or joints, clinical problems that involve bilateral differences in calf girth are also encountered. Bone or joint damage by disease or trauma may result in muscle atrophy detectable only by measurement. In poliomyelitis, arthritis, osteomyelitis, and the muscular atrophies and dystrophies, such measurements can help diagnose current or previous disease, the extent of damage, and the progress of disease or therapy.

The clinician must evaluate measurements in the light of normal differences to be expected between the two calf girths; however, search of the medical and anthropological literature has disclosed no standards for normal adults. In very few studies have both right and left calves been measured, and then by questionable techniques or predominantly on young men, whereas thrombophlebitis occurs most often in persons over 40. The data presented here may help establish standard calf measurements for American men and women; those for thigh girth and for other age and racial groups remain to be investigated.

SUBJECTS AND METHODS

In the course of an investigation of 369 professional bus and truck drivers,[3] both calves were measured to determine the effect of differential use of the legs in driving. Activity analysis of these drivers on several models of vehicles showed that on the average the right foot was in use 99% of the time (81% on the accelerator and 18: on the brakes), whereas the left foot is active but 48% of the time, on the clutch.[4] It was thus assumed that drivers would show a greater calf difference (right minus left) than other groups in the population; but this did not hold true. Indeed, Tanner [5] has shown that calf cir-

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W. A. Hall, M.A., G. Maranjian, Ph.D., and R. H. Osborne, B.S., made the measurements on some of the normal subjects.

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[1] White, P. D., in Case Records of the Massachusetts General Hospital, New England J. Med. 247:64 (July 10) 1952.

[2] Gage, M.: Hidden Thrombus in Fatal Pulmonary Embolism, J. A. M. A. 151:433 (Feb. 7) 1953.

[3] McFarland, R. A.: Highway Transport Safety Project, Department of Industrial Hygiene, Harvard School of Public Health, Boston, 1949 to date.

[4] Dunlap, J.; Hall, W. A., and Shalvarjian, H.: Personal communication to the authors.

cumference may actually *decrease* with severe exercise, as it does during a single contraction.

The 369 drivers were healthy, white men from 20 to 64 years old, averaging 36 years (standard deviation [S. D.]: ±7.8 years), who averaged about 10 years as professional drivers of heavy vehicles. Most of them lived in New York, New England, and Texas, and their national origins were representative of Americans generally. Included in the group were some 100 state champion truck drivers competing in annual nationwide truck "Roadeos." All had excellent current health records. While they were not questioned specifically as to previous vascular or neuromuscular disease affecting the legs, some volunteered this information and were eliminated from the study, as were all with obvious disease.

Maximum horizontal calf circumference was obtained to the nearest millimeter, the subject standing with feet about 12 in. apart and weight evenly distributed on both feet. A metal measuring tape was applied at least three times, at various levels, to determine the maximum contact circumference without pressure. (Values for the completely relaxed muscle, as in patients measured in bed, are about 6 mm. greater.[5])

The same measuring technique was used for a smaller series of 104 healthy, white working women. They were a mixed group (doctors, nurses, technicians, secretaries, students, housewives, and cleaning women), mainly of northwest and central European extraction. Their age ranged from 17 to 68 years and averaged 32.2±S. D. 11.3 years. None had had previous disease affecting the extremities.

RESULTS

The women showed no statistically significant superiority of one calf girth over the other. The left calf was larger by 0.4 mm., with a S. D. of ±5 mm. This sample is probably representative of American women with regard to calf size, at least as judged by comparison with Reynolds and Asakawa's [6] series of 100 middle income, Ohio women averaging 38 years old. (Left calves in the present series and in Reynolds' series averaged 341.8 ± S. D. 24.1 mm. and 347 mm., respectively.) No other series is available for comparison of calf girth difference, so it cannot be stated definitely that women in general have equal calf girths.

The drivers' age, height, weight, and calf girths are shown in table 1 along with those of ROTC cadets and Army flyers, the only other groups so studied. Dunn's [7] ROTC cadets were measured only to the nearest 5 mm., whereas Elbel's [8] data on flyers are not presented in a form permitting statistical analysis of the calf girth difference. The average difference can be approximated (by subtracting left from right mean calf girth); the standard error of this average cannot be computed. The significance of the difference between the drivers' mean value and the pilots' is thus uncertain; the drivers and the ROTC cadets do not differ significantly. Single calf girths of several other series of men measured by a similar technique [9] are included for comparison.

Two points emerge from table 1: (1) drivers were comparable in calf circumference to other groups in the population, with regard to average circumference and bilateral difference; age and occupational habits seemed to affect calf girth little, if at all; and (2) right calf girth consistently and significantly exceeded the left in the series of men studied. Calf circumference difference, right minus left, in the 369 drivers averaged + 3.2 mm., with a S. D. of ± 6.4 mm. The distribution from which these figures are derived is presented in a clinically useful form in figure 1, which is close enough to the "normal" curve to be regarded as such.

In such a normal distribution, 68% of values lie between the mean ± 1 S. D., 34% falling on either side of the mean. The mean ± 2 S. D. includes 95%; the mean ± 2.5 S. D. includes 99%; and the mean ± 3 S. D. includes 99.7% of the distribution. For calf circumference, a difference, right minus left, of ± 1 S. D., corresponding to – 3 or + 10 mm., may occur by chance one-third of the time and hence can be considered normal. Differences of ± 2 S. D., corresponding to – 10 or + 16 mm., are less likely, with chances that can be read from tables in any statistical text. The procedure is to express the given measurement as distance-from-mean/S. D. For + 15 mm., this is (15–3.2)/6.4=11.8/6.4=1.8 S. D. from the mean, a 3.6% chance that such a difference can occur fortuitously. The usual level of significance is arbitrarily set at 1 to 3% (chances 99:1 to 33:1 against a normal occurrence of the given measurement). For practical purposes, the clinician may use ±2, 2.5, or 3 S. D. Corresponding to these limits, beyond – 10 or + 16 mm., only 5 in 100; beyond – 13 or + 19 mm., only 1 in 100; and beyond – 16 or + 22 mm., only 0.3 cases in 100 will occur in normal men. Whatever level of significance the clinician accepts, he will of course consider calf girth difference as only one diagnostic criterion.

TABLE 1.—*Calf Circumferences of Various Groups of American Men*

	No. of Subjects	Age (Yr.)	Height (Mm.)	Weight		Calf Circum. (Mm.)		Difference, Right —Left (Mm.)
				(Lb.)	(Kg.)	Right	Left	
Bus and truck drivers	369	36	1,741	167	75.7	362.07	358.84	3.2
ROTC cadets	478	21	1,735	146	66.2	357.5	353.8	3.7
Pilots	75	(25)	1,778	154	69.9	365.8	360.7	5.1
Middle income men (Ohio)	100	38	1,761	163	73.9	.....	361	...
U. of Chicago Freshmen	119	18	1,755	148	67.1	.....	355	...
U. S. Air Force								
Cadets	676	23	1,760	153	69.4	.....	360	...
Gunners	109	24	1,722	145	65.8	.....	355	...
Combat pilots								
Fighter	76	24	1,742	153	69.4	.....	359	...
Bomber	80	25	1,779	161	73.0	.....	366	...
U. S. Army								
World War I	96,087	25	1,720	142	64.4	341	.....	...
World War II	25,000	23	1,738	155	70.3	358	.....	...

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5. Tanner, J. M.: The Effect of Weight-Training on Physique, Am. J. Phys. Anthropol. **10**: 427 (Dec.) 1952.

6. Reynolds, E. L., and Asakawa, T.: A Comparison of Certain Aspects of Body Structure and Body Shape in 200 Adults, Am. J. Phys. Anthropol. **8**: 343 (Sept.) 1950.

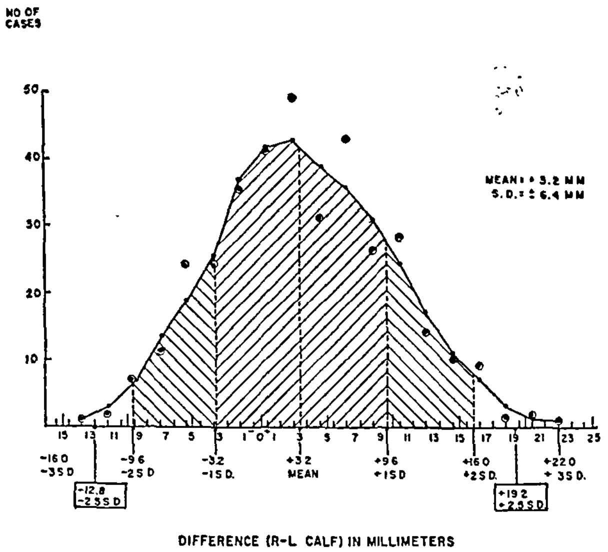
7. Dunn, H. L.: Arch Mechanics of the Normal Adult Foot, Am. J. Hyg. **8**: 410 (May 28) 1928.

8. Elbel, E. R.: Relationship Between Leg Strength, Leg Endurance and Other Body Measurements, J. Appl. Physiol. **2**: 197 (Oct.) 1949.

9. Damon, A.: Physique and Success in Military Flying, Thesis, University of Chicago, 1946. Davenport, C. B., and Love, A. G.: Army Anthropology, U. S. Government Printing Office, 1921. Newman, R. W., and White, R. M.: Reference Anthropometry of Army Men, Report 180, Environmental Protection Section, U. S. Army, 1951. Reynolds.[6]

OTHER OBSERVATIONS

There is a marked difference among various persons in ability to discern slight inequalities in calf circumference. In this series experienced physical anthropologists could not always decide this by inspection alone when differences ranged between 10 and 15 mm. It seems reasonable, therefore, that measurement should be routine. Among the men, the average of the two calf girths is unrelated to age (coefficient of correlation [r] = –0.03). Calf girth difference is also unrelated to age (r = + 0.04). Average calf girth and calf girth difference are themselves independent (r = + 0.06). Handedness cannot be used to "explain" the superiority of right over left calf girth or to predict which calf will be larger, since the coefficient of correlation (r) between calf girth difference and the dextrality index (left hand grip as a percentage of right, as measured by a Collins dynamometer) is –0.09. (All r's have a standard error of ±0.05). This may be stated in another way. Excluding the 210 "mid-range" subjects with calf girth difference less than ±2 mm. or a dextrality index of 95 to 104%, or both, of 132 strongly right-handed drivers, 31% had larger left calves, and of 27 strongly left-handed drivers, 68% showed larger right calves.



Distribution of calf circumference difference, right — left, in 369 healthy men (bus and truck drivers).

CLINICAL APPLICATION

To test the theoretical expectations, calf girth differences were noted in 109 consecutive patients at Presbyterian Hospital who had acute thrombophlebitis of the leg veins. The measurements were made from 1949 through 1952 by many observers and by many techniques, but they were always made always at corresponding levels for the two calves. Mere notation of apparent presence or absence of swelling outnumbered actual measurement by about 10 to 1, possible evidence that measurements were made chiefly in doubtful cases. Similar values were found among Negro and white persons on whom exact measurements were made (7 Negro and 54 white men and 7 Negro and 41 white women). No cases were found in which the larger calf was the unaffected one, nor were any included in which disease other than thrombophlebitis affected the legs. The expected increase in calf girth inequality between normal and thrombophlebitic subjects is shown in table 2.

However, these averages reveal nothing about the borderline cases, which pose the diagnostic problem. A "cut-off" point (the upper limit of normal) is desirable for excluding normal persons and detecting cases of thrombophlebitis. As shown in table 3, the most practical figures are ±15 mm. for men and ±12 mm. for women. Less than 4% of normal men exceed ±15 mm., whereas 80% of thrombophlebitic patients do. (The use of 2.5 S. D., beyond —10 and +16 mm., is even better, including only 1% of normal persons and detecting 84% of thrombophlebitic patients, but 15 mm. is easier to remember). Only 1 to 2% of normal women's calf differences exceed ±12 mm., while 77% of the thrombophlebitic women's do.

TABLE 2.—*Calf Girth Differences in Health and in Acute Thrombophlebitis**

(Right — Left Calf, in Mm.)

	Normal Persons			Thrombophlebitic Patients		
Men	No.	Mean	S.D.	No.	Mean	S.D.
R > L	230	+6.7	4.6	30	+30.5	15.7
L > R	104	—4.4	2.8	31	—28.6	9.7
Women						
R > L	50	+4.9	3.5	23	+31.1	21.2
L > R	38	—4.9	2.8	22	—25.9	15.0

* Data on 35 normal men, 16 normal women, and 3 thrombophlebitic women with equal calf girths are omitted from table.

No such arbitrary figure can make the diagnosis automatically; it is merely a guide to be used in conjunction with other diagnostic criteria. As always, the clinician makes his final judgment on the basis of all the evidence.

SUMMARY AND CONCLUSIONS

Bilateral differences in calf circumference of 369 healthy, white men (bus and truck drivers) are presented in the figure as a guide in the diagnosis of thrombophlebitis and possibly in the diagnosis and management of neuromuscular and bone or joint disease. The men, whose ages ranged from 20 to 64 years and averaged 36 years, had an average calf girth difference of 3.2 mm., right exceeding left, with a standard deviation (S. D.) of ±6.4 mm., confirming previous reports on younger men. Similar measurements for 104 healthy white women averaging 32.2 years old and without previous disease of the extremities, show no difference between the calves.

TABLE 3.—*Calf Girth Differences in Acute Thrombophlebitis: Percentages Exceeding Indicated Differences*

(Right — Left Calf, Mm.)

	No.	±2 S.D.*	±2.5 S.D.*	±3 S.D.*	±12	±15
Men	61	—10	—13	—16	....	....
		+16	+19	+22	....	....
		84%	84%	75%	....	80%
Women	48	±10	±12.5	±15	....	....
		77%	75%	65%	77%	....

* Standard deviation based on 369 normal men and 104 normal women.

Based on 109 consecutive cases of acute thrombophlebitis, as well as on normal distributions, the most practical upper limit of normal calf girth difference appears to be ±15 mm. in men and ±12 mm. in women. Calf girth difference in about 4% of normal men and 80% of thrombophlebitic men exceeds ± 15 mm. In about 1 to 2% of normal women and 77% of thrombophlebitic women it exceeds ± 12 mm. Negroes with thrombophlebitis show calf girth differences comparable to those of white patients, so the figures apply to both races. In normal men, there is no correlation between age and calf circumference, age and calf girth difference, average calf girth and calf girth difference, or right or left calf girth superiority and handedness.

Variable individual ability to discern calf inequality and the difficulty of trained anthropologists in estimating 10 to 15 mm. differences in calf size make routine measurement desirable in suspected thromboembolic, neuromuscular, and bone or joint disease.

620 W. 168th St. (32) (Dr. Damon).

ASYMPTOMATIC FRACTURES IN OSTEOPOROTIC SPINES OF THE AGED

J. Gershon-Cohen, M.D., A. M. Rechtman, M.D., Harold Schraer, Ph.D.
and
Nathan Blumberg, M.D., Philadelphia

Asymptomatic vertebral fractures in osteoporotic spines of the aged stand out in sharp contrast to the urgency and seriousness of acutely traumatized spines in younger persons. The peculiarities of these fractures form the basis of this report. In the Home for the Jewish Aged, in Philadelphia, 136 residents were selected for study because they were ambulatory and in good health. Their ages ranged from 63 to 95 years. Anteroposterior and lateral x-ray examinations of the spine were made as part of the clinical survey in each case.

RESULTS

Fractures were found in 35 (25.7%) of the 136 cases, in 11 (20%) of the 54 men and in 24 (29%) of the 82 women (table 1). Single fractures in the dorsal spine alone occurred in 14 cases and in the lumbar spine in 7 cases. When multiple fractures were present, they were confined to the dorsal spine, in 6 cases, or in the combined dorsolumbar area, in 9 cases; multiple fractures always were found in association with one or more fractures in the dorsal spine. The 12th dorsal and the first lumbar vertebrae were most frequently fractured. Only one or two fractures were found in most spines, but there were as high as seven fractures in one case (table 2).

TABLE 1.—*Asymptomatic Fractures of Spine Among 136 Aged (Fifty-Four Men and Eighty-Two Women)*

Age, Yr.	Men No.	Women No.
65-69	0	2
70-74	3	4
75-79	2	8
80-84	4	6
85-89	1	2
90-94	1	1
95-100	0	1
Total	11	24

TABLE 2.—*Number and Location of Asymptomatic Fractures of Spine Among 136 Aged*

Case No.	Location Dorsal	Location Lumbar
1	8, 9, 10, 12	1, 3
2	12	..
3	5	1, 3, 4
4	10	..
5	7, 8	..
6	9, 10, 11, 12	..
7	9	3
8	10, 11, 12	..
9	12	1
10	12	..
11	12	..
12	12	1
13	..	1
14	5	..
15	11	..
16	5	..
17	9	..
18	4, 5	..
19	6	..
20	..	3
21	6	..
22	..	1
23	6	..
24	..	1
25	3, 5, 7. 11	1, 2, 4
26	12	..
27	9, 12	..
28	12	2
29	6	..
30	..	3
31	..	2
32	12	1
33	4, 5	..
34	12	..
35	..	1

All spines revealing fractures were osteoporotic, but, unfortunately, the intensity could not be determined, since no satisfactory measure of osteoporosis has yet been devised.[1] The deossification of the spine, in many cases, was associated with codfish deformities of the vertebral bodies. Contractures, narrowing, and contour irregularities of the intervertebral spaces adjoining the fractures were noted uniformly, but otherwise these spaces usually were widened and sometimes were almost spherical. Hypertrophic osteoarthrosis or degenerative changes were found in all spines of this group. Seldom were these changes generalized, and in the patients with fractures, the hypertrophic irregularities were most marked in the area of fracture. Kyphosis of the upper dorsal spine was common to the whole group. Rarely was kyphosis or scoliosis localized to the fractured site.

Most fractures involved the upper anterior portion of the vertebral body (fig. 1). Occasionally, the entire upper surface of a body showed evidence of collapse with herniation of the nucleus pulposus into the crushed area,

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From the Albert Einstein Medical Center, Northern Division, and the *Home for the Jewish Aged.*

1. Gershon-Cohen, J.; Schraer, H.; Sklaroff, D. M., and Blumberg, N.: Dissolution of Intervertebral Disc in the Aged Normal: The Phantom Nucleus Pulposus, Radiology, to be published.

(fig. 2). The close resemblance of these fractures and the secondary changes of healing to those fractures following an acute injury was remarkable. The case shown in figure 3 fortuitously furnished evidence of all phases of fracture without symptoms in the aged. The fracture when first seen in this 81-year-old woman was recent and resembled that which might have occurred after acute trauma in a younger person (fig. 3); yet she did not give a history of recent injury, and she had no complaints. No restriction was noted in her activities, which comprised keeping her room tidy and moving about freely. Too impatient to wait for an elevator, she walked up and down one flight of stairs at least three times daily for her meals. Because the fracture of the first lumbar vertebra obviously was recent, even though she gave no history of injury, this patient was watched with the expectation that, sooner or later, she would complain of back pains and require orthopedic attention. Nothing like this occurred. She had no complaints, and repeated x-ray examinations (fig. 4) showed complete healing without deformity or disalignment, in spite of the fact that no treatment was given.

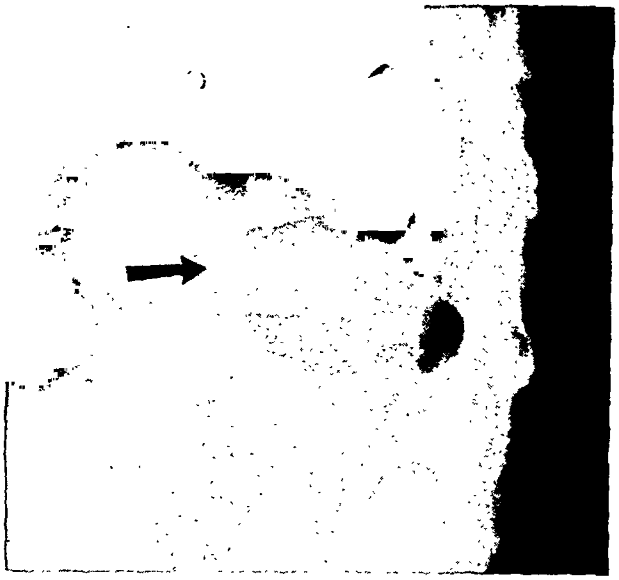

Fig. 1.—Asymptomatic healed fracture of upper anterior portion of the body of the 12th dorsal vertebra in a man 76 years old.

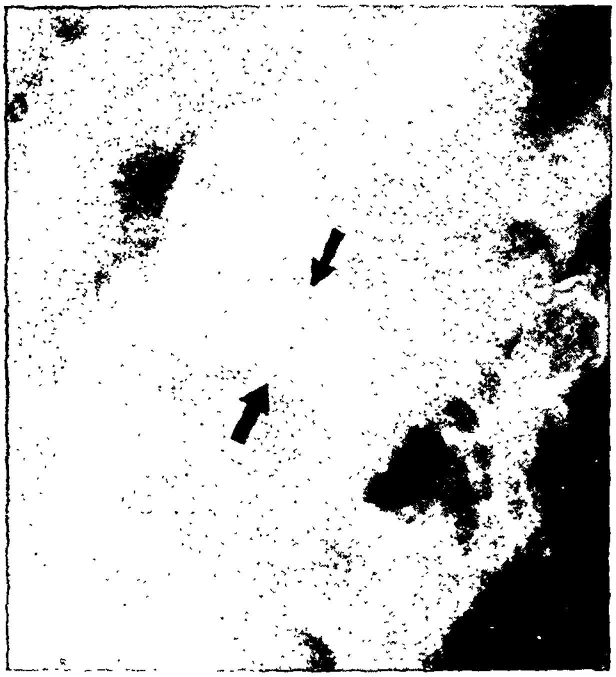

Fig. 2.—Asymptomatic healed fracture with disruption of the proximal nucleus pulposus, which has herniated into the body of the 2nd lumbar vertebra in a 73-year-old man.

Not a single history of fracture was elicited in this group, and, therefore, not a single patient was treated for fracture. Even more remarkable was the absence of any clinical findings indicating disability. Persons with fractured vertebrae could not be distinguished from those without fractures, just as was observed in six similar cases by Nathanson and Lewitan.[2]

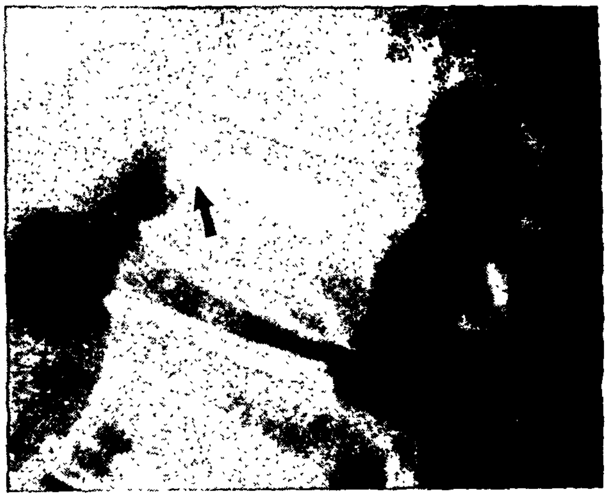

Fig. 3.—A recent asymptomatic fracture through the upper anterior portion of the 1st lumbar vertebra in an 81-year-old woman.

COMMENT

In older persons, retardation of osteoblastic activity is involved, rather than bone absorption. Aggravating factors may be present, such as a decreased blood supply due to arteriosclerosis, evidence of which was prominent in the collateral x-ray studies of the aorta and large vessels in this series of cases. Steindler suggests an increased frequency of focal aseptic necrosis resulting from a precarious blood supply as an explanation for the ease of traumatism in the bones of the aged.[3] Among other causes for senile atrophy, he mentions defective alimentation and inanition, with loss of calcium and phosphorus. Since these substances are still excreted in the urine, the loss is covered at the expense of the skeletal system. Other factors to be considered in the aged are the higher incidence of deficient gastric hydrochloric acid and hepatic and pancreatic secretions. Such factors lead to inadequate absorption and utilization of ingested calcium, fats, and vitamins A and D. Finally, hypofunction of the endocrine system must be considered, particularly of the pituitary, thyroid, parathyroids, and gonads. It is no wonder that a simple panacea has not been discovered for the prevention or cure of senescent deossification.

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[2] Nathanson, L., and Lewitan, A.: Deformities and Fractures of Vertebrae as a Result of Senile and Presenile Osteoporosis, Am. J. Roentgenol. 46: 197-202, 1941.

[3] Steindler, A.: in Geriatric Medicine, Stieglitz, E. J., editor, ed. 2, Philadelphia, W. B. Saunders Company, 1949, pp. 693-724.

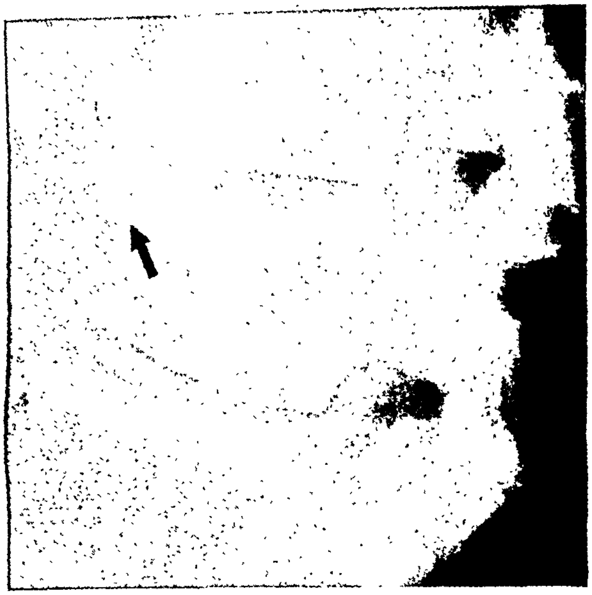

Fig. 4.—The fracture shown in figure 3 after it had healed. There were no symptoms, and no. therapy was given.

Since the bones of the aged are brittle and fragile, they are susceptible to fracture. The spinal column particularly shares in this process under the continuous influence of body weight. That fractures should occur without producing symptoms, as in younger persons, comes as a surprise. The medicolegal implications that may arise under such circumstances can be misleading and expensive. Solid healing of these fractures without special treatment evidently occurs, because the anatomic defect of the fractured vertebra, even though marked sometimes, does not interfere with the stability of the spine. A similar conclusion in a study of fractures among miners was reached by Nicoll.[4] Also, already established is the efficiency of conservative treatment of spinal fractures in the aged.[5]

SUMMARY

Among 136 healthy residents of a home for the Jewish aged in Philadelphia, one or more asymptomatic fractures of vertebrae were found in 35 (26%). The 12th dorsal and the first lumbar segments were most frequently involved. Osteoporosis, with degenerative changes, occurred in most cases, but no unusual disalignment was present at the level of the fractures. Moreover, detailed clinical examinations revealed no objective evidence of these untreated fractures, in spite of their close resemblance to those occurring after acute trauma in the younger person.

255 South 17th St. (Dr. Gershon-Cohen).

[4] Nicoll, E. A.: Fractures of Dorso-Lumbar Spine, J. Bone & Joint Surg. 31-B: 376-394, 1949.

[5] Bick, E. M., and Copel, J. W.: Fractures of Vertebrae in Aged. Geriatrics 5: 74-81, 1950.

A FIVE YEAR STUDY OF TUBERCULOUS CHILDREN TREATED WITH STREPTOMYCIN

CHAIRMAN'S ADDRESS

E. T. McEnery, M.D., Chicago

The role of streptomycin in the treatment of tuberculosis has been well established. This has been observed from the reports of many authors and from personal experience with a large number of tuberculous children who were treated with streptomycin.

In the fall of 1947, streptomycin therapy was begun on a selected group of 21 children in the Chicago Municipal Tuberculosis Sanitorium. These patients had been under observation for periods varying from 2 months to 36 months, and all of them had positive indications of tubercle bacilli from sputum, gastric washings, or bronchial secretions. The positive sputum tests were confirmed by cultures and guinea pig inoculations. The patients all had positive reactions to Mantoux tests, and roentgenograms showed lung infiltrations of varying degrees. A complete history was taken on each child, with special emphasis on contact with a person having tuberculosis. In all cases, the diagnosis of an active pulmonary process was made before any streptomycin therapy was started.

Each case was closely observed clinically during the course of treatment. Roentgenograms were taken once a month during use of the drug and every two to three months after termination of streptomycin treatment. All the patients were kept on essentially the same rest program. Blood cell counts and sedimentation rates were taken once a month. After streptomycin therapy was stopped, cultures and stained smears of gastric washings and bronchial secretions were made. Two negative examinations of gastric washings and one negative examination of bronchial secretions were required before a child could be discharged from the sanitorium.

TYPES OF TUBERCULOSIS

Of the 21 patients, 18 (6 white and 12 Negro) were classified as having a progressive primary lesion. This is a relatively early lesion, sometimes evident on physical examination by impaired percussion note and suppressed breath sounds, but usually not causing any other changes in physical signs. The roentgenograms show a soft infiltrative process extending out from the hilum to the periphery of the lung, with some enlargement of the hilar shadows. Three cases (in Negroes) were classed as far-

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Read before the Section on Pediatrics at the 102nd Annual Session of the American Medical Association, New York, June 3, 1953.

From the Chicago Municipal Tuberculosis Sanitorium.

Dr. McEnery is Assistant Professor of Pediatrics, Stritch School of Medicine, Loyola University; Assistant Attending Physician, Chest Clinic, the Children's Memorial Hospital; and Pediatric Consultant, Chicago Municipal Tuberculosis Sanitorium.

advanced adult type of tuberculosis with marked pulmonary involvement. Physical examination revealed impaired resonance, rales, and signs of cavitation. Large cavities seen in the roentgenograms supported the diagnosis of far-advanced pulmonary lesions. These children had failed to respond to bed rest and artificial pneumothorax and had been on a downward course for two years. The ages of the 18 children with primary lesions varied from 8 months to 11 years, while those with the adult type of lesion were 11, 12, and 13 years old respectively. There were 6 white children and 15 Negro children; 9 were boys, and 12 were girls.

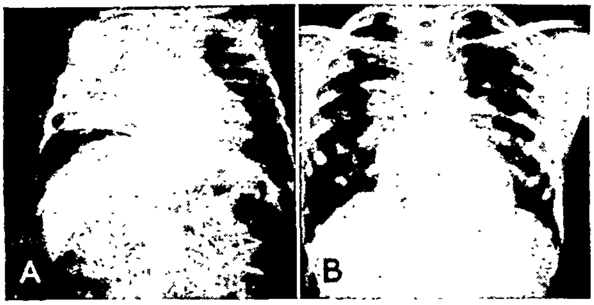

Fig. 1. (case 1).—*A*, roentgenogram showing primary progressive lesion of the right lung in November, 1947, before streptomycin therapy was begun. *B*, roentgenogram taken in November, 1952.

When streptomycin therapy was begun, the majority of the patients received 0.5 gm. in divided doses, twice daily. Later, this was decreased to 0.3 gm., once daily. This dosage was followed for children of all ages and weights. Most of the children received the drug for 120 days; a few received it for 90 days. Blood levels of streptomycin were not checked as a routine procedure, but spot checking on some patients showed adequate therapeutic levels.

Toxic reactions were not seen with the use of these small doses. No auditory or vestibular disturbances were noted during streptomycin therapy, and none developed after the drug was withdrawn. Three patients became resistant to the drug. One of them, a patient with a progressive primary lesion, died of tuberculous meningitis during treatment. Two of the adult type of pulmonary lesions remained resistant to the drug. The initial clinical response to the drug was the same in all cases. This usually occurred in 7 to 10 days. Temperatures returned to normal levels, appetites improved, and there was a definite change in the children's dispositions; they were less irritable and more cooperative.

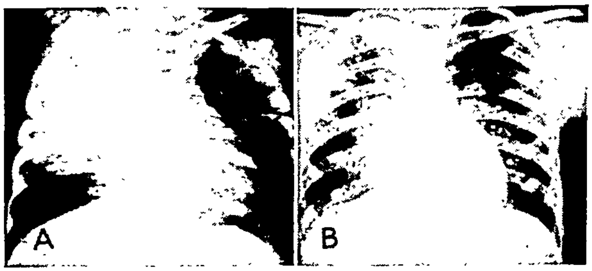

Fig. 2 (case 2).—*A*, roentgenogram showing primary progressive lesion of the right lung in November, 1947, before streptomycin therapy was begun. *B*, roentgenogram taken in November, 1952.

In the instances of progressive primary lesions, even though the general condition of the child improved within 10 days, it was at least a month before any change was noted in the physical findings. In those with the adult type of lesion, the child's appetite improved, and there seemed to be a good general response. The pulmonary process became progressively worse, however, and two of these three children died within a year after streptomycin therapy was begun. The other patient was operated on, and he made an excellent recovery. Changes in the monthly roentgenograms appeared slowly after streptomycin therapy was begun. It was usually three months before a definite change could be detected. Improvement was noted to continue months after streptomycin therapy was discontinued.

PROGRESSIVE PRIMARY LESIONS

Case 1 (fig. 1).—A 7-month-old Negro boy was admitted to Cook County Hospital with a cold. Gastric washings contained tubercle bacilli. The source of infection was unknown. He was admitted to the Municipal Tuberculosis Sanitorium four months later. Physical examination revealed a poorly nourished infant with impaired percussion resonance at the apex of the right lung, with rales and amphoric breathing. His general condition was very poor. The child was given 0.5 gm. of streptomycin daily for 120 days. He remained in the sanitorium until December, 1949, when he was discharged to a foster home. In November, 1952, his general condition was good. There were no unusual physical findings, and the shadows seen on the roentgenograms were minimal on the right side. No relapse had occurred during five years.

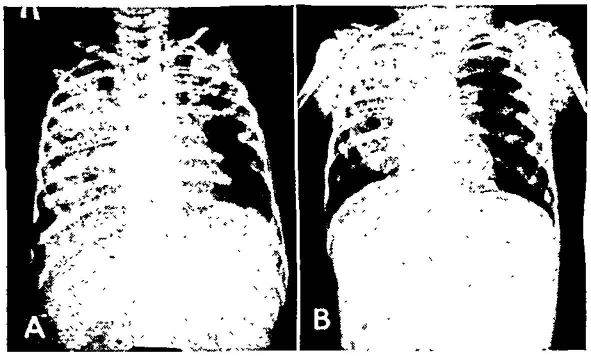

Fig. 3 (case 3).—*A*, roentgenogram showing extensive bilateral lung involvement in February, 1948, when streptomycin therapy was begun. *B*, roentgenogram taken in October, 1948, revealed clearing on both sides with extensive calcification. The patient died of tuberculous meningitis three weeks later.

Case 2 (fig. 2).—A 2-year-old Negro girl had contracted tuberculosis from a cousin. She was transferred from Cook County Hospital to the Municipal Tuberculosis Sanitorium. Gastric washings were positive for tubercle bacilli. The patient was in serious condition. Physical examination revealed impaired resonance over the whole right side, rales, and amphoric breathing. Streptomycin, 0.25 gm. daily, was given for 120 days. This child remained in the sanitorium for six months and was then discharged to her home. In November, 1952, her condition was good. There were no unusual findings on physical examination, and roentgenograms showed only a slight infiltration on the right side. At the present time she is considered a healthy child.

Case 3 (fig. 3).—A 3-year-old white boy was admitted to the Children's Memorial Hospital with what was thought to be a terminal condition, i. e., far-advanced lung disease and draining sinuses in the neck. Physical examination showed a seriously ill, markedly emaciated child with extensive pulmonary lesions. Impaired resonance and breath sounds were present at both right and left lung apexes, with marked involvement at the left base. In addition, rales and amphoric breathing were noted at both apexes. Gastric washings were positive for tubercle bacilli. The patient was given 0.5 gm. of streptomycin four times daily. After 10 days he was transferred to the Municipal Tuberculosis Sanitorium.

On admission the child was very ill and a diffuse erythematous rash covered his body. The pulmonary condition had progressed, and it appeared that the patient would survive only a few days. He was given fluids intravenously and blood transfusions. Because of the rash, streptomycin was withdrawn. After five days the rash faded, and streptomycin therapy (0.1 gm. daily) was resumed. In two weeks the patient's temperature returned to normal, and he began to improve. Changes in the roentgenograms were slow to appear, and the physical findings showed little progress. The sinuses in his neck gradually closed; he gained weight and was ambulant. The course of streptomycin treatment was 120 days. Five months after streptomycin therapy was discontinued he became nauseated, showed other signs of meningitis, and died within two weeks. This child had a progressive primary lesion. The gastric washings remained positive for tubercle bacilli after streptomycin therapy had been discontinued.

At necropsy the lungs showed marked healing of far-advanced, ulcerative tuberculosis. There was cavitation of most of the middle lobe with a residue of calcified, caseous material around the margins and numerous granular concretions in all the interstices of the cavity. The calcified foci appeared to be older than any seen previously in a 4-year-old child. The cavity generally had a smooth wall, some of which was becoming lined with epithelium. The complete autopsy findings showed that considerable healing changes had taken place before meningitis caused the patient's death. The healing was attributed to the effect of streptomycin.

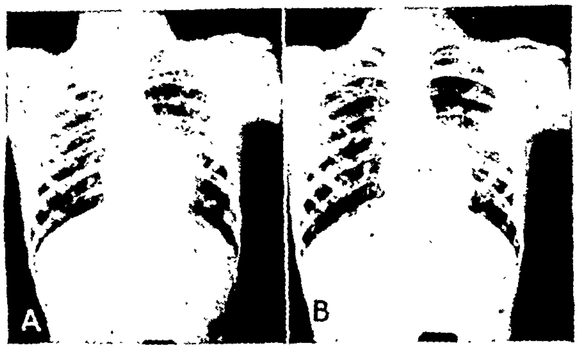

Fig. 4 (case 4).—*A*, roentgenogram taken in November, 1947, before streptomycin therapy was begun. *B*, roentgenogram in April, 1949. The patient died one and a half years after streptomycin therapy was begun.

ADULT TYPE OF LESION

CASE 4 (fig. 4).—A 12-year-old Negro girl had a cough, had lost weight, and felt tired. She was admitted to the Municipal Tuberculosis Sanitorium dispensary. Tubercle bacilli were found in sputum examinations. Physical examinations showed a thin, seriously ill child with cavities at the apexes of both lungs. Bed rest for three months did not arrest the progress of the disease. Streptomycin therapy (0.5 gm. daily) was begun four months after her admission and was continued for 120 days. The patient's course was gradually downhill, and she died a year and a half after streptomycin therapy was begun.

COMMENT

The majority of these children were kept in the sanitorium for a period of one year. They were discharged to their own homes after two gastric washings and a bronchial aspiration were negative for tubercle bacilli on both smear and culture. During the next four years they were examined every six months. Physical examinations were made, and roentgenograms of the chest were taken. All of the children were followed up; three who moved out of the area were given physical examinations by their own physicians.

Mortality in the group has been low; two children with progressive primary lesions died of tuberculous meningitis, one while under treatment and the other after release from the hospital. One child with a primary lesion died after surgery of the lung. Two children with the adult type of lesion died one and two years respectively after drug therapy was started. The drug had little effect on the adult type of lesion. After showing general improvement when streptomycin therapy was begun, these patients had a slow downward course until death. The third patient in this group had lung surgery and made a good recovery. Aside from these cases, none of the children has had a relapse. They have not received any form of medication at home and have lived normal active lives.

On a basis of clinical, roentgenographic, and bacterial observations, improvement that resulted from the original course of treatment has been sustained over a period of at least five years. During this time these children have not received any additional medication, and their activities have not been restricted. The parents cooperated in follow-up study and made an effort to increase the children's daily rest. No special effort was made to keep them on a strict diet.

Primary progressive lesions should be observed long enough to determine if conservative treatment will bring about a suitable response in the pulmonary process. If the lesion is spreading during the period of observation, streptomycin should be given. With the three cases of adult type of lesions the results have not been encouraging. In order to obtain good results in this type of tuberculosis, medical management must consist not only of streptomycin therapy but of combinations of tuberculostatic drugs and surgery if necessary. These measures must be employed before the condition becomes widespread and the prognosis is poor.

CONCLUSIONS

Progressive primary tuberculous lesions in children respond well to streptomycin therapy, and the results obtained during the first year of treatment and observation are well maintained for a follow-up period of at least five years. The seriousness of the adult type of lesion cannot be overemphasized. This type of lesion must be recognized early and must be treated energetically with medical management, rest, pneumoperitoneum, and surgery. Even with these measures, results leave much to be desired.

4458 W. Madison St.

Pain of Gallbladder Disease.—The pain pattern of gallbladder disease may simulate that of peptic ulcer even to the presence of pain at night and relief by administration of an antacid. Likewise, in exceptional cases, a duodenal ulcer involving the hepatoduodenal ligament is capable of producing enough inflammatory reaction around the common bile duct to produce jaundice. The duodenal ulcer which perforates into the adjacent gallbladder is less common, however, than the large gallstone which perforates the gallbladder and the duodenum to form a fistula.—L. A. Smith, M.D., Pain Patterns in Diseases of the Upper Part of the Abdomen, *Proceedings of the Staff Meetings of the Mayo Clinic,* July 29, 1953.

RADIOACTIVE GOLD IN THE TREATMENT OF MALIGNANT EFFUSIONS

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and
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Since the majority of patients with cancer eventually succumb to their disease, the practicing physician frequently must deal with the problem of palliation. One of the complications of advanced cancer is the accumulation of fluid in the peritoneal or pleural cavities, which not only mechanically interferes with the function of the lungs and gastrointestinal tract but also depletes the body of proteins. Clark[1] reports a 29% incidence of significant effusions (over 1,000 cc. of fluid) in 266 consecutive autopsies on men with malignant disease.

A radioactive isotope was first used to treat ascites due to peritoneal carcinomatosis by Muller in 1945, who used Zn^{63} prepared in a cyclotron. In 1950[2] he reported on eight patients treated by intraperitoneal injection of colloidal Au^{198}, including one in whom both intrapleural and intraperitoneal injections were performed. The inhibition of fluid formation noted in these patients has encouraged other clinical trials. Several reports already published have confirmed the efficacy of this isotope in slowing or stopping the formation of fluid in the pleural or peritoneal cavities. In the small number of cases reported to date, the incidence of favorable results has varied from 30 to 90%.[3]

The mechanism of this therapeutic agent is not clearly understood. Although radioactive gold has both a beta and a gamma emission, the beta particles account for most of the radiation effects produced in the tissues. This is probably a surface phenomenon, since the maximum range of the beta particle in tissue is 3.8 mm. and the average path well under 1 mm. The inhibition of fluid formation might be the result of a direct effect on the cancer cells, since Goldie and Hahn[4] have demonstrated that the intraperitoneal injection of radioactive gold has a lethal effect on free floating sarcoma cells in the peritoneal fluid of mice. Andrews and associates[3a] have observed the disappearance of free tumor cells from fluids following gold therapy in human subjects. On the other hand, the mechanism could be a nonspecific effect resulting from the production of pleural and subpleural fibrosis. Knisely and Andrews[5] have described the characteristic histological findings following radioactive gold therapy as consisting of fibrous thickening of pleura or peritoneum with a layer of fibrin on the surface. Frequently tumor cells could be identified very near the surface. Obliteration of the pleural space was not a constant finding.

The handling of amounts of radioactivity involved in this type of therapy is potentially hazardous and should be carried out only by personnel familiar with the dangers and methods of protection. The details of technique and handling have been published elsewhere.[6]

This report is based on 74 patients who have been treated with Au^{198} for metastatic cancer in either the peritoneal or the pleural cavities or both (table 1). In this group are two patients with proved malignant pericardial effusions that have not been previously described in the literature. This series has been divided into two groups, pleural and peritoneal, which will be discussed and evaluated separately. Eight patients received both intrapleural and intraperitoneal gold and were included in both groups.

TABLE 1.—*Results of Therapy with Au^{198}*

	Intrapleural	Intraperitoneal
Total no. of patients treated	40	42
No. surviving over one month	26	27
No. surviving over six months	9	15
No. lost to follow-up	3	0
No. with palliation achieved	20	20

PLEURAL EFFUSIONS

A total of 40 patients with malignant pleural effusions were treated with radioactive gold during the period of July, 1951, to May 1, 1953. All of these were patients with proved cancer, and in most the malignant nature of the effusion was confirmed by the demonstration of malignant cells in the pleural field. We do not believe that every patient with a malignant effusion is necessarily a candidate for radioactive gold therapy. Since the main therapeutic effect is the inhibition of fluid formation, therapy is usually not indicated unless the patient is experiencing respiratory embarrassment attributable to the presence of fluid and repeated thoracenteses have demonstrated the rapid reaccumulation of the effusion. The dose used in almost all instances was 100 mc. The gold used in this laboratory is calibrated by a gamma ray comparison to a radium source. This measurement is performed by means of a modified Lauritzen electroscope. It should be noted that the values obtained do not agree in general with the calibration supplied by the Abbott Laboratories, our values running approximately

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From the Department of Radiology (Dr. Seaman) and the Department of Obstetrics and Gynecology (Drs. Sherman and Bonebrake), Washington University School of Medicine.

1. Clark, T. H.: Radioactive Colloidal Gold Au^{198} in the Treatment of Neoplastic Effusions, Quart. Bull. Northwestern Univ. M. School **26**: 98, 1952.

2. Muller, J. H.: Further Development of Treatment of Peritoneal and Pleural Metastases from Ovarian Carcinoma with Radioactive Gold, Gynecologia **129**: 289 (May) 1950.

3. (*a*) Andrews, G. A.; Root, S. W.; Kerman, H. D., and Bigelow, R. R.: Intracavitary Colloidal Radiogold in the Treatment of Effusions Caused by Malignant Neoplasms, Ann. Surg. **137**: 375 (March) 1953. (*b*) Kent, E. M., and Moses, C.: Radioactive Isotopes in Palliative Management of Carcinomatosis of Pleura, J. Thoracic Surg. **22**: 503 (Nov.) 1951. (*c*) King, E. R., and others: The Use of Radioactive Colloidal Gold (Au^{198}) in Pleural Effusions and Ascites Associated with Malignancy, Am. J. Roentgenol. **68**: 413 (Sept.) 1952. (*d*) Walton, R. J.: The Palliative Treatment of Malignant Pleural and Peritoneal Effusions with Radioactive Colloidal Gold, J. Fac. Radiologists **4**: 130 (Oct.) 1952.

4. Goldie, H., and Hahn, P. F.: Distribution and Effect of Colloidal Radioactive Gold in Peritoneal Fluid Containing Free Sarcoma 37 Cell, Proc. Soc. Exper. Biol. & Med. **74**: 638 (July) 1950.

5. Knisely, R. M., and Andrews, G. A.: Pathological Changes Following Intracavitary Therapy with Colloidal Au^{198}, Cancer **6**: 303 (March) 1953.

6. Ter-Pogossian, M., and Sherman, A. I.: Handling of Radioactive Gold for Therapeutic Purposes, Nucleonics **10**: 23 (March) 1952.

20% higher. Thus, a dose of 100 mc. according to our calibration corresponds to about 80 mc. as supplied by Abbott Laboratories.

In five patients bilateral intrapleural injections of radioactive gold were given. In two instances this was done at a single sitting, in two others a week intervened between the two injections, while in the fifth patient a right pleural effusion was treated with radioactive gold nine months following similar therapy for a left pleural effusion. Re-treatment of the same side was done in two cases. One patient in whom 75 mc. of Au^{198} inhibited fluid formation for three months was re-treated with 100 mc. and required no further thoracenteses until she died five months later. Another patient was re-treated three months after a first injection had failed to control the effusion. The second treatment is too recent to evaluate satisfactorily.

Eight patients received radioactive gold in the peritoneal and pleural cavities. In five patients with ovarian tumors, both the pleural and peritoneal effusions were controlled in three while in the other two only the ascites were controlled. Two patients with a generalized lymphoma and a gastric cancer, respectively received benefit from the intrathoracic injection but none from the abdominal injection. One patient received no benefit from either the peritoneal or intrapleural gold.

Some patients may continue to accumulate fluid for several weeks and still have a favorable response. The injected gold apparently becomes fixed to the serous surfaces, since measurements of radioactivity of pleural and ascitic fluid reveal that in six to seven days there is only 5 to 10% of the initial radioactivity remaining even after correction for the radioactive decay.[7] Because of the rapid decay and this fixation phenomenon, very little of the radioactivity is lost after one week if a repeat thoracentesis is necessary for relief of symptoms. The following case report illustrates an excellent response to radioactive gold therapy.

REPORT OF A CASE

CASE 1.—A 50-year-old woman had a left radical mastectomy in January, 1950, for breast cancer. In July, 1952, the onset of dyspnea and left chest pain resulted in the discovery of a left pleural effusion (fig. 1*A*). During the subsequent nine days, three thoracenteses were performed with the removal of a total of 4,800 cc. of grossly bloody fluid. On July 28, 1952, 100 mc. of Au^{198} were injected into the left pleural space. The patient improved markedly and her dyspnea completely disappeared. A chest roentgenogram in December, 1952, five months later showed pleural thickening and a small pleural effusion or pleural thickening in the left costophrenic angle (fig. 1*B*). The last roentgenographic examination in April, 1953, showed the development of a right pleural effusion and mediastinal adenopathy but no change in the appearance of the left side of the chest.

The result of this type of therapy as given in table 1 shows that some palliation occurred in about half of the entire group. The achievement of palliation was based solely on inhibition of fluid formation. This was difficult to determine in the 11 patients who died within one month of treatment. Of the 26 patients who survived longer than one month, significant palliation was accomplished in 20. Three patients were lost to follow-up. There seemed to be no relation between the site of the primary tumor and the response to therapy (table 2).

PERICARDIAL EFFUSION

Two patients with malignant pericardial effusions associated with clinical evidence of cardiac tamponade were treated with radioactive gold. One patient was a man with a carcinoma of the lung in whom the intrapericardial injection of 90 mc. of Au^{198} failed to prevent the rapid reaccumulation of fluid although injection of 100 mc. into the left pleural space did inhibit pleural fluid formation. The other patient had an excellent response Since treatment of malignant pericardial effusions with radioactive colloidal gold has not been previously reported, the second case is briefly described.

TABLE 2.—*Results in Intrapleural Effusions Treated with Au^{198}*

Source of Primary Lesion	No. of Patients	No. Survived Over 1 mo.	No. Survived Over 6 Mo.	No. with Palliation Achieved
Breast	12	5	3	5
Lung	12	10	1	7
Ovary	7	5	2	4
Lymphoma	5	3	2	2
Nasopharynx	1	1	0	1
Stomach	1	1	1	1
Unknown	2	1	0	0
Total	40	26	9	20

CASE 2.—A 55-year-old white woman entered Barnes Hospital because of increasing dyspnea, orthopnea, and ankle edema of three weeks' duration. Twelve years earlier a right radical mastectomy had been performed for breast cancer Examination disclosed a weak, cyanotic woman with severe orthopnea, venous distention, hepatomegaly, and ankle edema. The heart sounds were of fair quality, but a pulsus paradoxicus was present. There were enlarged hard lymph nodes in the left axilla, left supraclavicular region, and the cervical region bilaterally. The venous pressure was 320 mm. of water. Chest roentgenograms revealed a large heart with poor pulsations and a small left pleural effusion (fig. 2*A*). A pericardial tap removed 20 cc. of grossly bloody fluid, and 20 cc. of air was injected. A subsequent chest roentgenogram confirmed the pericardial location of the fluid and air. Malignant cells were identified in the pericardial fluid. Because of the rapid reappearance of pericardial fluid following repeated pericardial aspirations with signs of cardiac tamponade, 100 mc. of Au^{198} were injected into the pericardial sac on Nov. 8, 1952. The patient gradually improved and was discharged one week after treatment.

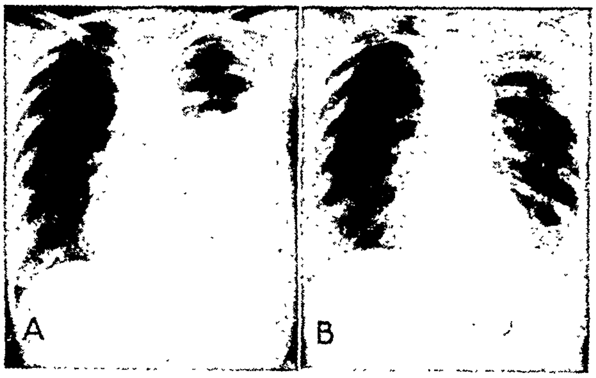

Fig. 1 (case 1).—*A*, chest roentgenogram demonstrating a massive left malignant pleural effusion. *B*, chest roentgenogram five months after the intrapleural injection of 100 mc. of colloidal radioactive gold.

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[7] Andrews, G. A.; Root, S. W., and Kniseley, R. M.: Metabolism and Distribution of Colloidal Au^{198} Injected into Serous Cavities for Treatment of Effusions Associated with Malignant Neoplasms, Cancer 6: 294 (March) 1953.

A reexamination 10 weeks after hospital discharge revealed a heart of normal size, with regular heart sounds of good quality. Orthopnea had completely disappeared and the patient complained only of mild exertional dyspnea. There was no ankle edema. A chest roentgenogram showed no abnormalities (fig. 2*B*). The patient was last seen on March 24, 1953, four and one-half months, following the radioactive gold therapy. At this time the chest roentgenogram was still negative, and the patient complained chiefly of symptoms referable to enlarging bilateral cervical nodes.

ASCITES

Forty-two patients with ascites have been treated with radioactive gold, including eight patients in whom malignant effusions in both chest and abdomen were treated. The presence of cancer was confirmed in all of this group by either the demonstration of cancer cells in the ascitic fluid or by biopsy at the time of surgery. In 37 patients a laparotomy was done. In the remaining five cases the disease was considered to be too far advanced to justify laparotomy.

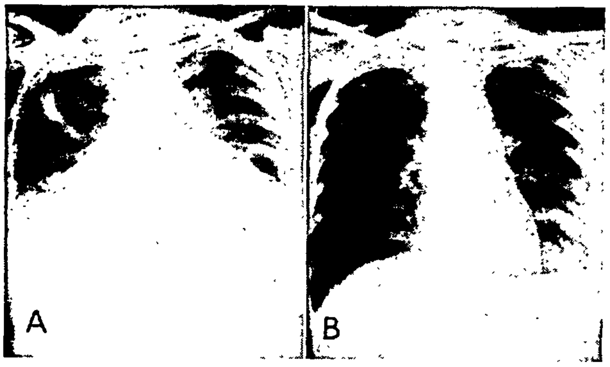

Fig. 2 (case 2).—*A*, chest roentgenogram at time of hospital entry showing cardiac enlargement due to a malignant pericardial effusion. *B*, chest roentgenogram 10 weeks after the intrapericardial injection of 100 mc. of colloidal radioactive gold showing the normal appearance of the heart and lungs.

The sites of origin of the tumors producing an accumulation of fluid in the peritoneal cavity are presented in table 3. Cancer of the ovary was the most frequent cause of ascites in this group, being present in 28 patients (66%). Other causes of ascites were cancers arising in the stomach, rectum, gallbladder, and endometrium.

TABLE 3.—*Results in Ascites Treated with* Au^{198}

Source of Primary Lesion	No of Patients	No. Survived Over 1 mo.	No. Survived Over 6 Mo.	No. with Palliation Achieved
Ovary	30	21	13	16
Endometrium	2	2	0	1
Stomach	5	1	1	1
Gallbladder	1	0	0	0
Rectum	1	0	0	0
Lymphoma	1	1	1	1
Breast	1	1	0	1
Mesothelioma	1	1	0	0
Total	42	27	15	20

Follow-up studies on this group clearly indicate the poor prognosis of persons with malignant abdominal effusions. Only 24 were still alive at the end of one month; six months after the development of ascites 15 were still alive. Many patients were considered to be in terminal condition at the time of treatment, and 13 did not survive one month. The achievement of palliation was based solely on the inhibition of fluid formation, which was difficult to evaluate in those who died within one month. Of 27 patients who lived longer than one month, 20 (74%) were helped by the treatment. This included 16 of 21 patients with ovarian cancer, 1 of 2 with endometrial cancers, one who is still surviving with gastric cancer, and one patient with a retroperitoneal lymphoma.

The latent period between the diagnosis of the malignant disease and the onset of ascites has been studied and was found to be quite variable. This was also true for the rate of fluid formation. Five patients were asymptomatic for six months following surgery and roentgen therapy. When ascites appeared it reaccumulated so rapidly that paracenteses were necessary at weekly intervals. These patients were then treated with radioactive gold, and fluid accumulation was retarded for as long as four to six months. One patient remained subjectively well for 18 months when ascites developed. After treatment with 150 mc. of gold, she remained well for four months, at which time an additional 75 mc. of gold resulted in three more months of palliation. Twenty-four of the 30 patients with ovarian cancer had received previous external roentgen therapy that had failed to inhibit the production of ascites.

COMMENT

This mode of therapy has been well tolerated by the patients in almost all instances. No significant amount of radiation sickness has been encountered. A few patients have complained of mild nausea and anorexia of several days' duration. A low grade fever occurred in several patients following the intrapleural injection of gold but its causal relationship to the therapy was obscure.

A potentially serious effect of the gold is depression of hematopoiesis. A small portion of the gold gets into the blood stream from which it is removed by the liver, spleen, and bone marrow. This fraction plus the irradiation of the bone marrow by the gamma emissions may result in bone marrow depression. Botsford and coworkers [8] reported four cases of aplastic anemia following therapy with radioactive colloidal gold. In three of these patients the gold was administered by direct injection into a tumor mass while the fourth patient was treated by an intraperitoneal injection. In the autopsy studies of Knisely and Andrews [5] on patients treated with radioactive gold, bone marrow damage was not prominent. In our group of patients, the only hematological damage noted clinically was a mild leukopenia.

Patients should be hospitalized for this procedure so that precautions regarding radiation hazards may be observed. Hospitalization is required for all patients while they harbor more than 30 mc. of activity.[9]

The dosage actually delivered to the serous membranes varies according to the area covered, the depth to which it is covered, and the degree of dilution by the effusion remaining after the aspiration. Injection of gold into a loculation will result in a very high dosage while other areas receive no irradiation. The intraperitoneal injection of 100 mc. into the average adult peritoneal surface of 30,000 sq. cm. results in an average surface dose of about 3,000 rep, assuming it was all evenly distributed over the surface.[7]

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[8] Botsford, T. W.; Wheeler, H. B.; Newton, R. A., and Jacques, W. E.: Hypoplasia of Bone Marrow Associated with Radioactive Colloidal Gold Therapy, J. A. M. A. **151:** 788 (March 7) 1953.

[9] Isotopics: Announcement of The Isotope Division, U. S. Atomic Energy Commission, **2:** 3 (July) 1952.

SUMMARY AND CONCLUSIONS

The use of radioactive gold in the treatment of malignant pleural and peritoneal effusions in 74 patients is reported. About half of the entire group received palliation as determined by the inhibition of fluid formation. In the group of patients who lived longer than one month, distinct palliation was achieved in about 75%. Response to treatment was influenced by neither the site of the primary tumor nor the location of the effusion.

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AVULSION OF THE BRACHIAL PLEXUS

REPORT OF SIX CASES

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The purposes of this paper are to report six cases of avulsion of the brachial plexus from the spinal cord and to direct attention to a diagnostic method for determining the precise location of the traumatic lesion. Often there are no visible signs of trauma to guide the examiner in determining the exact anatomic site of the nerve disruption. The most careful neurological examination fails to disclose, with certainty, the exact point of injury or to explain the nature of the injury present. The six following case reports illustrate nerve root avulsion from the cervical spinal cord, four of them proved by exploratory laminectomy.

REPORT OF CASES

CASE 1.—A 26-year-old Negro woman jumped from an automobile traveling 70 miles per hour seven months prior to her admission to Jefferson Hospital on May 27, 1946. She had sustained a laceration of the left scapuloclavicular region and a scapular fracture. There was immediate and complete paralysis of the left arm that remained unchanged. Examination revealed complete paralysis and atrophy of all the muscles of the left shoulder girdle, arm, forearm, and hand. There also was total anesthesia of the limb except for the second thoracic dermatome beneath the axilla. Horner's syndrome was present. Roentgenograms of the cervical spine, dorsal spine, and left shoulder revealed only osteoporosis of the bones of the shoulder.

It was concluded that an exploratory cervical laminectomy was advisable to determine the possibility of root avulsion from the cord and to render a more decisive prognosis. On June 6, 1946, the laminar arches of the fourth, fifth, sixth, and seventh cervical and (partially) of the first thoracic vertebrae were removed. On opening the dura no motor or sensory roots were seen coming off the left side of the spinal cord over this distance (fig. 1). They had been completely avulsed from the cord leaving only the torn foramens in the dura where they normally pierced it. These foramens had healed across. The cord itself did not appear to be damaged by the trauma, but there was no sign whatsoever of any motor or sensory roots reaching from the fourth cervical to the first dorsal segments. The roots on the right side were normal. The sixth cervical root on the left side was explored extradurally (through the foramen), and the avulsed ends were found about one-half in. (1.27 cm.) lateral to the dura.

CASE 2.—A 19-year-old Negro girl was thrown about 30 ft. (9 m.) during an automobile accident on April 14, 1947. She sustained superficial lacerations and complete paralysis of the right arm. On admission to Jefferson Hospital four months later, examination revealed atrophy of the right shoulder girdle and upper arm. The right forearm was moderately atrophied, and there was edema in the right hand. There was paralysis of the muscles of the right shoulder girdle (with scapular winging), the right arm and forearm (with wrist drop), and of all radially innervated muscles in the right hand. There was no paralysis of median or ulnar innervated hand muscles. There was hypalgesia in the fifth and sixth cervical dermatomes over the lateral aspect of the right arm and in the median and radial zones in that hand. Roentgenograms of the cervical spine and shoulders showed only a subcoracoid subluxation of the right humerus.

It was decided to explore the cervical spinal cord for prognostic reasons. On Sept. 5, 1947, right cervical hemilaminectomy was performed from the 4th to the 7th segments. The dura over this region was found torn at the exit of each nerve through it. The dura was opened, revealing that the sensory and motor roots had been completely avulsed from the spinal cord throughout the uncovered length. This included the fifth, sixth, and seventh nerves. It is possible that the roots below were avulsed also, but these were not uncovered. The spinal cord was perfectly denuded of all remnants of nerve fibers. The picture was that of a complete pulling away of the motor and sensory roots along with a portion of dura about 5 to 8 mm. in diameter at each spinal segment.

CASE 3.—A 28-year-old man was involved in a sledding accident 12 years before admission in which his head and left shoulder struck a tree. He was knocked unconscious and awoke one week later with complete paralysis of the left arm and numbness of the left hand. After the first two years strength gradually returned so that, on examination in April, 1948, he had a complete wrist drop, triceps paralysis, severe weakness of the deltoid and pectoral muscles, and moderate weakness of the supraspinatus, serratus magnus, rhomboid, brachioradialis, teres, and hypothenar muscles. There was anesthesia over the lateral aspect of the upper arm and forearm and over the radial zone in the hand. The biceps and triceps reflexes were absent. Subluxation of the humeral head was present.

On April 19, 1948, the left brachial plexus was explored above the clavicle and in the axilla. The middle trunk was healthy and of normal size. It was stimulated, but there was no muscular response. The upper and lower trunks were stimulated with violent, muscular reaction. The cords were then explored in the axilla; there was absence of electrical response from the posterior cord. Presumably the lesion was above the level of exploration and could be assumed to be an avulsion from the spinal cord.

CASE 4.—A 17-year-old Negro boy fell from a truck five months prior to admission to Jefferson Hospital on Sept. 11, 1951. He landed on his head and left shoulder and sustained immediate, continued, complete paralysis of the entire left upper limb and shoulder girdle. There was complete sensory loss from the fifth through the eighth cervical dermatomes. Severe atrophy was present in all muscle groups of the useless limb. The level of the lesion was at the spinal cord itself (fig. 2), similar to the description of the roentgenograms obtained by

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Murphey and Kirkland.[1] Significantly, there was no Horner's syndrome or any other spinal cord signs that would indicate such a central site of nerve disruption. The accurate prognosis afforded by the myelographic demonstration of an incurable lesion enabled us to transfer the patient to the orthopedic service. The useless limb was amputated in November, 1952, thus ridding the boy of an unsightly, burdensome member and facilitating his rehabilitation.

Case 5.—In August, 1952, a 19-year-old youth fell 30 ft. through a trap door and landed on his left shoulder and knee. He sustained immediate paralysis and numbness of the left upper limb; this was unchanged when he was first seen eight weeks after the accident. Examination disclosed complete paralysis and muscle atrophy of the entire left upper limb, with absence of tendon reflexes, and anesthesia from the fifth cervical through the first thoracic dermatomes. A cisternal cervical myelogram with ethyl iodophenylundecylate (Pantopaque) showed no abnormalities.

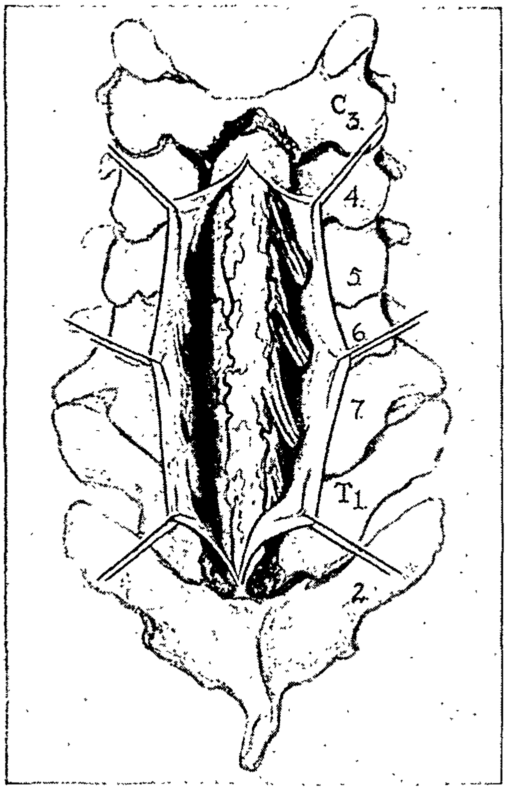

Fig. 1.—Operative appearance of cervical spinal cord showing avulsion of both motor and sensory nerve roots on the left side (case 1). Normal root outlets greatly enlarged by the avulsed roots carrying with them a button of the surrounding dura.

In order to confirm our clinical impression hemilaminectomy was performed on Oct. 24, 1952. The fifth, sixth, and seventh cervical and first thoracic laminas were removed. The fourth, fifth, sixth, and eighth cervical and first thoracic roots were normal, but the seventh cervical roots had been avulsed from the spinal cord (except for one hair-thin nerve filament) and had disappeared out of the dural foramen, which was virtually an empty hole (fig. 3). Both motor and sensory roots were involved. There was no evidence of spinal cord damage or scar where the root had been joined to the cord. Four months later, sensation had returned down to a point just below the elbow, but complete paralysis was still present. This patient may continue to improve over the course of the next two years in view of the small amount of known permanent nerve damage.

Case 6.—A 53-year-old Negro woman fell down three steps on Dec. 31, 1952, and landed on her left shoulder. There was immediate paralysis of all movements at the left shoulder, which remained unchanged at the time of her admission to Jefferson Hospital two weeks later. Examination showed paralysis of the supraspinatus, deltoid, pectoral, biceps, and brachioradialis muscles, and pronator and supinator muscles of the wrist. The latissimus dorsi and triceps muscles were weak. Appropriate atrophy was present. There was subluxation of the humeral head. The biceps and triceps reflexes were absent. There was no sensory loss. Hand function was good. Cisternal

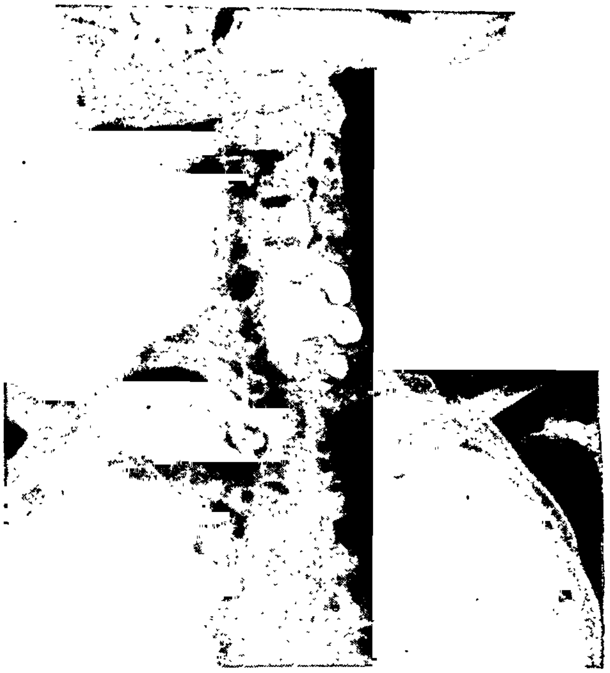

Fig. 2.—Myelogram revealing false diverticula at sites of dural tear associated with nerve root avulsion (case 4).

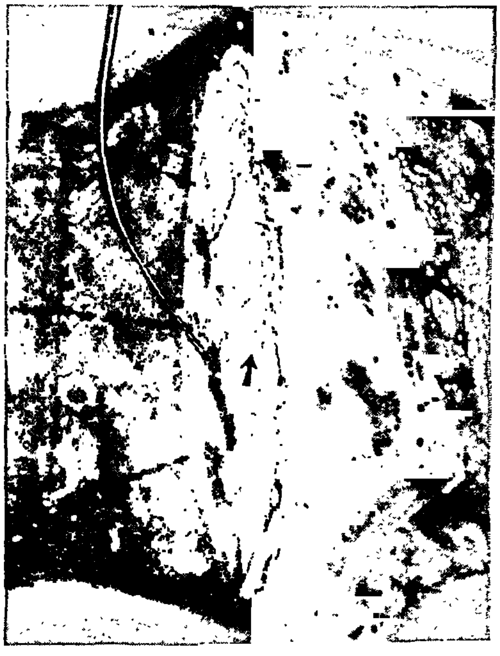

Fig. 3.—Operative view of hemilaminectomy showing (pointer) dural foramen where only a hair-thin nerve filament from the seventh cervical root remains and (arrow) actual point of avulsion of the nerve root from the spinal cord (case 5).

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[1] Murphey, F., and Kirkland, J. W.: Myelographic Demonstration of Avulsing Injuries of the Brachial Plexus, read before the Clinical Congress of the American College of Surgeons, Chicago, 1949.

cervical myelogram was done with normal results. Exploratory cervical hemilaminectomy was performed on Feb. 2, 1953, exposing the fifth cervical through the first thoracic roots intradurally on the left side. The fifth motor root was completely absent, since it had been avulsed from the cord (fig. 4). The sixth and seventh motor roots were grey and edematous. All the other roots of the brachial plexus were normal. Electrical stimulation of the affected roots produced motor responses at only such a high intensity of current that we assumed overflow of current to be responsible. Two weeks later arthrodesis of the shoulder was performed by the orthopedic department. Five weeks thereafter a Steindler transfer of the wrist flexors was performed to obtain flexion at the elbow. Although there was considerable return of pectoral function, it was assumed that further recovery was unlikely.

COMMENT

The brachial plexus originates from the spinal cord by means of the anterolaterally placed motor and posterolaterally placed sensory root filaments. At its point of origin, each root is disseminated on the cord into numerous, almost microscopic fibers. This continuous row of nerve root filaments extends the entire length of the cord. At every segmental level, a number of these filaments converge as the anterior (motor) and posterior (sensory) roots of the spinal cord before they pierce the dura to become the mixed spinal nerves. The brachial plexus is then formed from the undivided, anterior, primary rami of the fifth, sixth, seventh, and eighth cervical and first thoracic nerves, with possible minor contributions from the fourth cervical and second thoracic nerves.

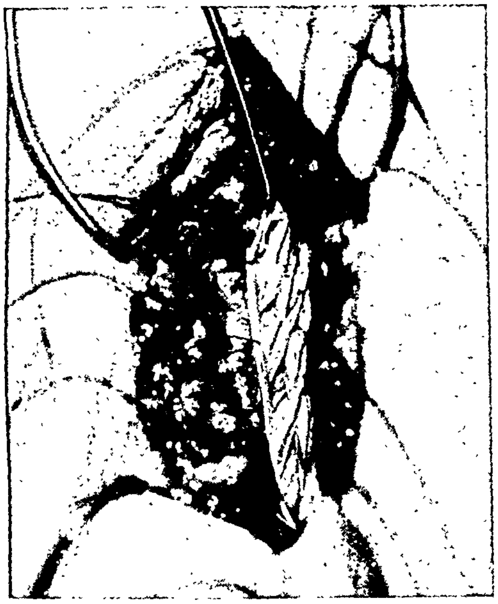

Fig. 4.—Operative view of hemilaminectomy showing (nerve hook) fifth sensory root; note complete absence of fifth motor root, greyish appearance of sixth and seventh motor roots, and normal appearing eighth sensory and motor roots. Black silk ligatures around the sixth, seventh, and eighth sensory roots.

It can readily be seen from this structural arrangement that the major resistance to any avulsive force applied to the brachial plexus must be exerted by the spinal dura at the foramens where the roots pass through this structure. Once this resistance, which is considerable, is reduced, there remain only the extremely weak, microscopic filaments with little actual strength to withstand a complete tearing of the nerve roots from the cord at the cord.

Any injury of the roots themselves will usually be manifested by: (1) Horner's syndrome, if the first thoracic root is affected; (2) paralysis of the rhomboid, levator scapulae, and serratus anterior muscles, if the fifth, sixth, and seventh roots are affected, insomuch as the dorsal scapular and long thoracic nerves arise prior to the trunks; and (3) possible signs of spinal cord damage, if the roots are avulsed from the cord itself. More distal paralyses and sensory deficits in the myotomes and dermatomes supplied by the affected roots will also be present. It is important to recognize any signs indicating the nerve roots themselves as the site of the lesion, since it is worthless to attempt nerve repair at this location, to render an accurate prognosis. It is obvious that the prognosis in nerve root avulsion is hopeless. Rehabilitative surgery, such as amputation, arthrodeses, or tendon-muscle transfers, can be done at the earliest possible opportunity.

There is almost nothing in the medical literature to indicate any actual observation of the spinal cord denuded of its nerve roots in the pathogenesis of brachial plexus avulsion. Loyal Davis [2] noted, in a study of 47 cases of brachial plexus injuries, that in only 2 cases was complete avulsion of the roots from the spinal cord observed, and it was associated with other lesions of the spinal cord. In these cases extraspinal exploration of the plexus [3] was done, whereas we chose direct inspection by laminectomy.

Murphey,[1] in 1949, presented his experiences with the radiographic demonstration of brachial plexus root avulsions by cervical myelography with iodized oil. He discovered, by roentgenography, "a pseudomeningocele or a diverticulum-like structure extending through the intervertebral foramen into the brachial plexus." In some cases, there was only distortion of the lateral extension of the nerve root sleeves. He studied seven cases in this way and verified the diagnosis in three cases by extraspinal operation. Although the myelogram cannot be relied on to reveal the degree of root damage, it can demonstrate that the lesion is intraspinal in location; furthermore, in the two cases in which we did both myelography and laminectomy, there was a disparity between the results of each. In one case (case 5), the myelogram appeared to be normal, and yet at operation the seventh motor and sensory roots were found avulsed. In another instance (case 6), the myelogram again showed no clear-cut evidence of root avulsion. At operation, not only was one (motor) root actually avulsed but two more roots were badly damaged; yet this damage could not be visualized by myelography. Unless the myelogram reveals profound root disruption, the spinal cord and its roots must be exposed surgically for accurate assessment of the damage.

SUMMARY AND CONCLUSIONS

We have demonstrated, by hemilaminectomy, the actual conditions in avulsion of the cervical nerve roots from the spinal cord. It is valuable to utilize cervical myelography and possibly hemilaminectomy in all nonpenetrating injuries of the brachial plexus in order to determine prognosis or any need for extraspinal neurorrhaphy or rehabilitative procedures.

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[2] Davis, L.; Martin, J., and Perrett, G.: Treatment of Injuries of the Brachial Plexus, Ann. Surg. 125: 647, 1947.

[3] Davis, L.: Personal communication to the authors dated May 8, 1950.

CLINICAL NOTES

LATE MENINGEAL REACTION TO ETHYL IODOPHENYLUNDECYLATE USED IN MYELOGRAPHY

REPORT OF A CASE THAT TERMINATED FATALLY

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and
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Ethyl iodophenylundecylate (Pantopaque) has been employed extensively as a contrast medium in myelography since it was first introduced about 10 years ago. Its widespread use is evidence that severe reactions are uncommon, and in our experience ethyl iodophenylundecylate has proved to be a most satisfactory medium. We had observed only transitory and minimal reactions until the case herein reported came to our attention. This case is noteworthy for several reasons. The serious complications were so long delayed (15 months) after the use of ethyl iodophenylundecylate in myelography that it might easily have been overlooked as an etiological factor. The fatal termination was due to intracranial arachnoiditis, as a result of inadvertent introduction of the ethyl iodophenylundecylate into the basal cisternae during myelography. This emphasizes the importance of employing proper technique to avoid such an occurrence.

REPORT OF A CASE

A 33-year-old man was admitted to the hospital on Dec. 22, 1949, complaining of weakness of his legs, which he had first noticed in 1947 and which had gradually become worse until he had great difficulty in walking. He felt a tingling sensation in his legs and noted a decrease of the urinary stream. His past history was not relevant, except that he had had frequent "sinus trouble" and had had a goiter in childhood, which had been treated with iodine.

The results of the physical examination were essentially normal. Findings on neurological examination were absence of the lower abdominal and cremasteric reflexes, hyperactive patellar reflexes, and bilateral positive Babinski's reflexes. There was a slight diminution of vibration sense in the lower extremities and diminution to pinprick over the scrotum and penis. There was spastic paralysis of both lower extremities. The results of the urinalysis and routine blood studies were normal. The sedimentation rate was 4 mm., fasting blood sugar 85 mg. per 100 cc., and the nonprotein nitrogen 40 mg. per 100 cc. The blood Wassermann reaction was negative. X-ray films of the dorsolumbar spine revealed a moderate amount of marginal spurring on the anterior borders between the eighth and ninth thoracic vertebrae. There were only four vertebrae with true lumbar characteristics, and there was a spina bifida cleft at the arch of the first sacral segment. The spinal fluid pressure in the recumbent position was 210 mm. of water, and with compression of the jugular veins it rose to 430 mm. and fell promptly to 180 mm. The spinal fluid was clear and colorless, with no blood cells, a protein level of 24 mg. per 100 cc., and negative Wassermann and Lange reactions.

On Dec. 27, 1949, a myelogram was made, with the injection of 6 cc. of ethyl iodophenylundecylate in the lumbar subarachnoid space. The entire spinal canal was examined, and the appearances were considered within the limits of normal. There is no record on the chart that the ethyl iodophenylundecylate was removed. On the day after myelography the patient's temperature was elevated to a maximum of 102.2 F. He complained of some headache and of a flushed face. On the second day after the myelography the highest temperature recorded was 99.2 F, and by the third day the temperature had returned to normal.

An exploratory laminectomy was done on Jan. 10, 1950. Numerous tortuous veins were found over the surface, extending from the ninth thoracic to the first lumbar segments, of the spinal cord. It was believed that the patient had an angioma. After coagulation of one of the large veins leading to the angioma occurred, the dura mater was closed with nonabsorbable surgical sutures. The wound healed by primary intention, convalescence was uneventful, and the patient said that he had more feeling in his legs, especially for heat or cold, than he had before the operation. He was discharged from the hospital on Jan. 28, 1950, with the diagnosis of hemangioma of the spinal cord.

The patient was seen again as an outpatient on May 12, 1950, when he exhibited considerable improvement in his ability to walk but complained of occasional generalized headache. Almost a year later, April 6, 1951, he returned with a multitude of complaints referable not only to the lower extremities but to the head and upper extremities. In spite of these complaints, he had been working nine hours a day.

He was readmitted to the hospital on April 15, 1951. At that time his wife stated that his ability to walk had improved after the laminectomy 15 months previously. The recurrent headaches previously noted had increased six months before and had become even severer during the preceding three weeks. He became lethargic, vomited, was incontinent, and was occasionally confused and irrational. No definite weakness of the extremities had been noted by the patient or the family.

Physical examination again did not reveal any abnormalities, but the neurological examination showed that he was disoriented as to time and had a slight nuchal rigidity but no papilledema. The blood pressure was 140/94 mm. Hg, pulse 82 per minute, and respirations 22 per minute. The laboratory results were as follows: urine normal, hemoglobin (photoelectric oxyhemoglobin determination) 16.65 gm. per 100 cc., red blood cells 5,520,000 per cubic millimeter, white blood cells 11,100 per cubic millimeter (89% neutrophils, 2% filaments, 5% lymphocytes, 3% monocytes, and 1% eosinophils), blood sugar 140 mg. per 100 cc., and nonprotein nitrogen 30 mg. per 100 cc. A few days later, on April 17, 1951, more persistent vomiting and pronounced nuchal rigidity developed. X-ray films of the skull on April 17 showed considerable iodized oil scattered in the posterior fossa and some in the cisterns about the sella and in the subarachnoid spaces, particularly in the region of the left island of Reil. No other abnormalities were noted.

Disorientation increased, and the Babinski phenomenon became bilaterally positive. There was flexion of the upper extremities and extension of the lower extremities with spasticity. The patient became semistuporous, and an emergency ventriculogram was made. This showed an internal hydrocephalus, with dilatation of the lateral ventricles, the third ventricle, and the aqueduct and upper portion of the fourth ventricle. The spinal fluid was slightly cloudy and contained 650 mg. per 100 cc. of protein, 650 mg. per 100 cc. of chlorides, and 259 white blood cells per cubic millimeter (65% polymorphonuclear leukocytes and 35% lymphocytes). The ventricular fluid contained 180,000 red blood cells and 313 white blood cells per cubic millimeter, in the same proportion as in the spinal fluid. The ventricular fluid sugar was 81 mg. per 100 cc. and the protein 300 mg. per 100 cc. No organisms were seen on smear or culture of either the spinal or ventricular fluid. Special bacteriological studies for tubercle bacilli and fungi were negative.

A suboccipital craniotomy was performed, at which time a complete block of the lower portion of the fourth ventricle was demonstrated. When this was released, there was a forceful gush of cerebrospinal fluid. Microscopic study of the tissue removed at suboccipital craniotomy showed countless neutrophils and lesser numbers of lymphocytes in the meninges

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From the departments of neurological surgery and pathology, University of Wisconsin Medical School.

Dr. F. L. Kozelka of the University of Wisconsin supplied the chemical determinations.

and normal cerebellar tissue. There was temporary improvement after the suboccipital craniotomy, but death occurred suddenly two days later.

Postmortem Examination.—No significant abnormalities were found, other than in the cranium and vertebral canal. Since a granulomatous lesion had been suspected, a very careful examination of all organs was performed; however, no evidence of tuberculosis or other granulomatous lesion was found. Examination of the brain revealed flattening of all gyri, narrowing of sulci, and severe hyperemia of all superficial vessels. The basal surface of the pons and medulla was covered with a greenish-gray exudate (fig. 1*A*). When horizontal sections of the brain were made, the ventricles (fig. 1*B*) were found to be enlarged. There was a small area of hemorrhage in the right occipital pole and another in the right hemisphere of the cerebellum, as well as some blood clots in the ventricles, no doubt the result of the surgical procedure. Examination of the spinal cord revealed tortuous, dilated blood vessels and a fibrinous exudate (fig. 2) over the lower thoracic portion of the cord. A section through the medulla (fig. 3*A*) showed it to be surrounded by cellular exudate and consisting of a fine fibrillar network containing many lymphocytes and a few plasma cells, the number of plasma cells varying in different areas. An occasional multinucleated giant cell was seen, as well as some fibroblasts. The cerebral vessels near the surface showed perivascular cuffing mainly with lymphocytes (fig. 3*B*).

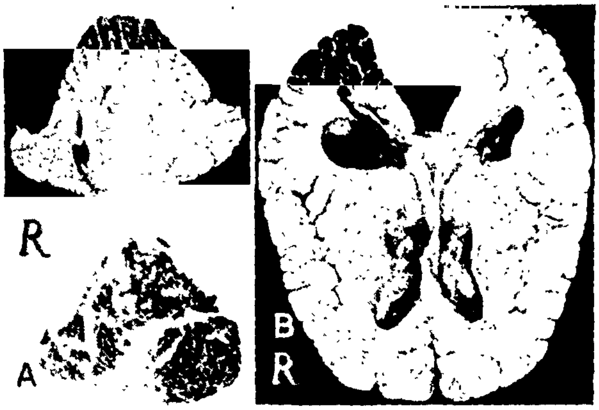

Fig. 1.—Postmortem specimens of the brain. *A*, basal surface of pons and medulla covered with a plastic exudate. *B*, internal hydrocephalus.

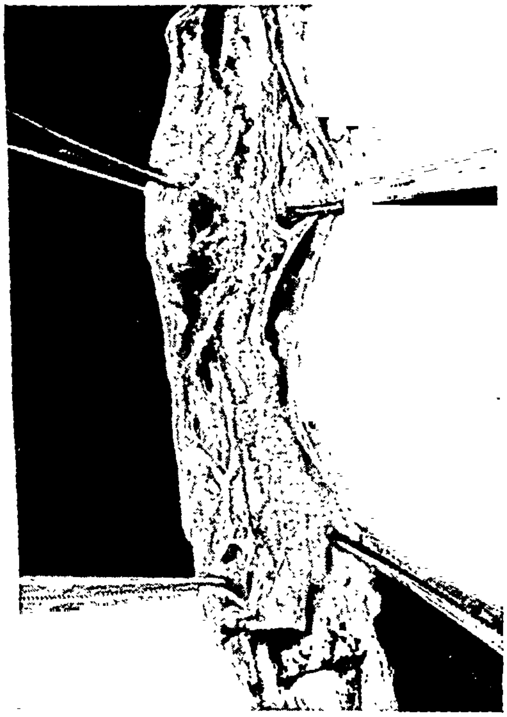

Fig. 2.—Thoracic part of spinal cord.

In addition to the cultures taken during life, the postmortem material was cultured especially for tubercle bacilli and fungi. All bacteriological studies were negative. Smears of the exudate as well as microscopic sections were stained by the following methods: Gram, Ziehl-Neelsen, Kingsley, Mallory's phosphotungstic acid hematoxylin, and Kernohan's stain for Torula, but no organisms were found.

The diagnosis, according to the gross and microscopic picture, was that of arachnoiditis or chronic meningitis, which had produced a severe internal hydrocephalus. The history of the patient, the oil myelography, and the presence of opaque medium on the skull roentgenogram directed our attention to the possibility of a reaction to the iodine in the ethyl iodophenylundecylate. A roentgenogram of the cerebellum and spinal cord taken after death showed areas of increased density in the region of the exudate (fig. 4). For this reason an x-ray photomicrograph (fig. 5) was made of a section through the medulla, which showed areas of greatly increased density corresponding to the meningeal exudate.

Finally, to obtain definite proof of the presence of iodine, material taken from the basal surface of the medulla was examined chemically for iodine. Nearly 50 mg. of iodine per 100 gm. of the material was reported. The total iodine content of the normal body is 20 to 50 mg., of which 50% is in muscle, 20% in the thyroid, 10% in skin, and 6% in skeletal tissue.[1]

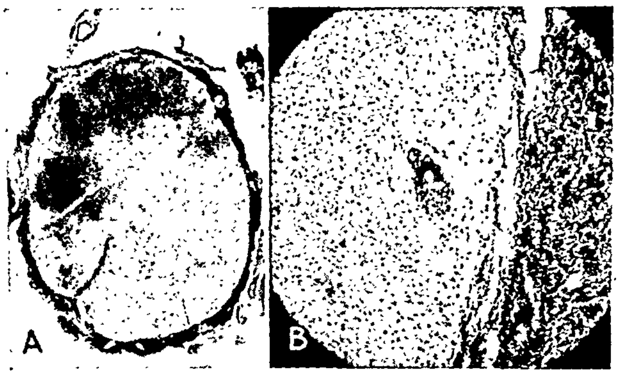

Fig. 3.—Low (*A*) and high (*B*) power view of section through medulla, showing meningitis and encephalitis.

COMMENT

The evidence that ethyl iodophenylundecylate was responsible for the meningeal reaction or arachnoiditis in this patient is both negative and positive. Other etiological agents that might have caused meningitis were excluded by thorough bacteriological and microscopic studies during life as well as at autopsy. The autopsy did not reveal evidence of a possible source of primary infection. Having eliminated, as far as possible, other causative factors, we may consider the evidence that ethyl iodophenylundecylate was responsible. For two days after myelography the patient had a fever, headache, and complained of a flushed face. This immediate reaction, not too unusual, was followed by an apparent quiescent period of nine months, during which the symptoms due to the original spinal cord lesion improved. There would appear to be two possible explanations of this asymptomatic period. The meningeal reaction to the ethyl iodophenylundecylate may have been minimal and only subsequently reactivated by some unknown factor. It would appear more probable that the meningeal reaction was low grade, was slowly progressive, and caused symptoms only when the exudate became extensive enough to produce obstruction to the free circulation of cerebrospinal fluid. The apparent latent period in this case might be considered analogous to that of the pneumonitis following administration of mineral oil. There followed another period of six months of progressively severer headaches and other symptoms, which may be related to the obstructive hydrocephalus that resulted consequent to arachnoiditis. X-ray films of the skull demonstrated ethyl iodophenylundecylate in the intracranial subarachnoid spaces. If the ethyl iodophenylundecylate had not been retained in critical, or bottleneck, areas in the pathways for cerebrospinal fluid circulation, obvious symptoms might not have appeared.

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[1] Cantarow, A., and Trumper, M.: Clinical Biochemistry, ed. 4, Philadelphia, W. B. Saunders Company, 1949, p. 216.

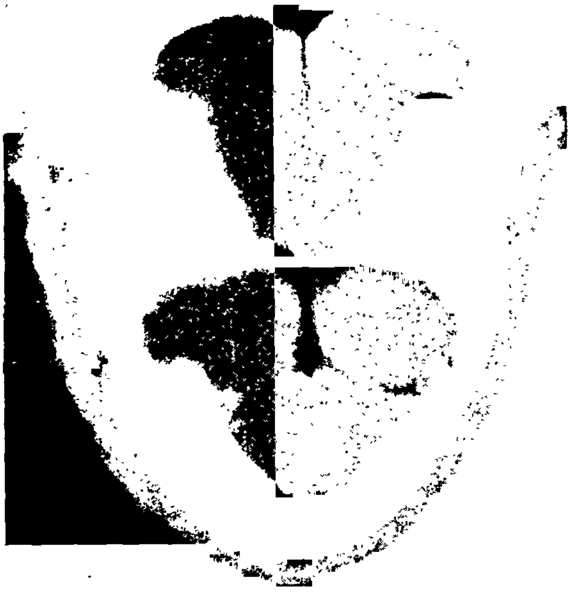

Fig. 4.—Postmortem roentgenogram of medulla, cerebellum, and spinal cord.

There can be little doubt that the meningeal reaction demonstrated post mortem, 15 months after myelography, was caused by the continued presence of the ethyl iodophenylundecylate in the subarachnoid spaces. The distribution of the exudate corresponded to that of the ethyl iodophenylundecylate as revealed in both premortem x-ray films of the cranium and postmortem films of the brain and spinal cord. In addition, the special x-ray studies of microscopic sections demonstrated radiopacity in the subarachnoid exudate that could only result from ethyl iodophenylundecylate. As a final step in establishing the causal relationship, the chemical analysis of the affected meninges showed a tremendous increase of iodine content that can be explained only by the presence of ethyl iodophenylundecylate.

With further survey of our own cases we have not been able to prove any other instances of such severe reactions to ethyl iodophenylundecylate. We continue to employ it routinely, but with the usual safeguards of removing the medium at completion of the procedure and with special care to keep the neck extended so as to prevent its becoming lodged intracranially when the cervical region is examined. Judging by our own experience and that of others, the incidence of reaction is low. In the original experimental work Steinhausen and co-workers [2] did note cyst formation in the subarachnoid space of dogs, and occurrence of slight meningeal reaction to ethyl iodophenylundecylate was noted by Peacher and Robertson.[3] These authors stated, in referring to their case 28, that reaction may occur after an interval if ethyl iodophenylundecylate extends into the basal cisternae. Tarlov [4] observed a pronounced inflammatory reaction, whitish soft stringy exudate of the arachnoid and nerve roots of the cauda equina, at laminectomy 60 hours after 3 cc. of ethyl iodophenylundecylate had been introduced intrathecally, and he termed this reaction "Pantopaque meningitis."

The reports of severe reactions to ethyl iodophenylundecylate have been rare when one considers how extensively it is used. The experimental observations of Steinhausen and co-workers [2] indicated that it provoked less tissue reaction than iodized poppy seed oil. The immediate and late effects of the intrathecal injection of iodized oil were studied by Marcovich and co-workers,[5] and there was a significant case report by Bucy and Speigel in 1943.[6] An early paper on the subject was that of Wartenberg.[7] Lindblom,[8] in an article based

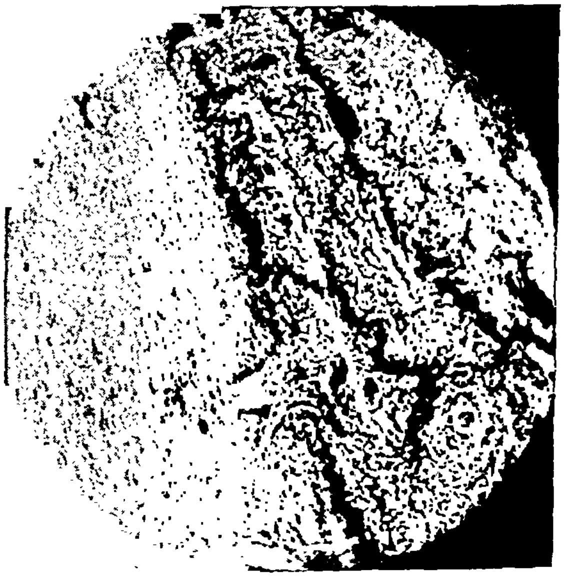

Fig. 5.—X-ray photomicrograph showing density of exudate in section of medulla.

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[2] Steinhausen, T. B., and others: Iodinated Organic Compounds as Contrast Media for Radiographic Diagnoses: Experimental and Clinical Myelography with Ethyl Iodophenylundecylate (Pantopaque), Radiology 43: 230, 1944.

[3] Peacher, W. G., and Robertson, R. C. L.: Pantopaque Myelography: Results, Comparison of Contrast Media, and Spinal Fluid Reaction, J. Neurosurg. 2: 220, 1945.

[4] Tarlov, I. M.: Pantopaque Meningitis Disclosed at Operation, J. A. M. A. 129: 1014 (Dec. 8) 1945.

[5] Marcovich, A. W.; Walker, A. E., and Jessico, C. M.: The Immediate and Late Effects of the Intrathecal Injection of Iodized Oil, J. A. M. A. 116: 2247 (May 17) 1941.

[6] Bucy, P. C., and Speigel, I. J.: An Unusual Complication of the Intraspinal Use of Iodized Oil, J. A. M. A. 122: 367 (June 5) 1943.

[7] Wartenberg, R.: Beitrag zur Encephalographie und Myelographie, Arch. f. Psychiat. 77: 507, 1926.

[8] Lindblom, K.: Complications of Myelography by Abrodil, Acta radiol. 28: 69, 1947.

[9] Kennedy, F.; Somberg, H. M., and Goldberg, B. R.: Arachnoiditis and Paralysis Following Spinal Anesthesia, J. A. M. A. 129: 664 (Nov. 3) 1945.

on the use of methiodal sodium (Abrodil) for myelography in 721 cases, reported complications in more than 54. Foster Kennedy and co-workers [9] reviewed the literature dealing with sequelae of spinal anesthesia and reported three cases of arachnoiditis in the spinal region. Other reports of meningeal reaction after spinal anesthesia and the introduction of other agents such as antibiotics intrathecally have appeared from time to time.[10]

Sensitivity or tolerance of the subarachnoid space to these various substances is a matter of relativity. On this score ethyl iodophenylundecylate is no doubt safe, and its margin of safety can be increased by its removal on completion of myelography. The possibility that some reactions may be due to variation in the composition of the ethyl iodophenylundecylate that is supplied has been suggested. Other possible factors such as the introduction of impurities in the syringe or the presence of an idiosyncrasy to iodine must be considered. We have no observations that bear specifically on these problems, but in this case the evidence indicates that the ethyl iodophenylundecylate itself must have been the irritant.

The reaction observed in this case does emphasize the hazard of ethyl iodophenylundecylate being allowed inadvertently to enter the intracranial space. The disclosure of droplets of oil intracranially after myelography is not too uncommon. Often one cannot ascribe any signs or symptoms to their presence, but again the clinical picture may be clouded by the original condition for which the patient was subjected to this examination. The localization of the oil and its amount may be important factors, as was clearly true in this patient in whom an obstructive hydrocephalus was produced due to exudative arachnoiditis in critical areas. Sensitivity to ethyl iodophenylundecylate may be of importance, as may be any underlying disease that contributes to the intensity of the reaction.

That this complication of intracranial extension of the contrast medium can be prevented in the majority of instances by proper technique is well known. Judging by our experience, it still needs to be reemphasized. The indiscriminate use of any method of examination such as myelography by untrained personnel can lead to unnecessary complications. In discussing the injudicious use of myelography, Oldberg [11] made a plea for respect for the tissues of the central nervous system. We would add to this a plea for meticulous attention to details of technique in performing a valuable diagnostic technique such as myelography.

SUMMARY AND CONCLUSIONS

A patient died 15 months after myelography was done with ethyl iodophenylundecylate (Pantopaque), because of an exudative and adhesive arachnoiditis producing an obstruction of the fourth ventricle and basal cisternae. That this meningeal reaction was due to ethyl iodophenylundecylate was indicated by x-ray studies both ante mortem and post mortem, by the chemical determination of iodine in the exudate, and by the microscopic examination. Although such a severe reaction to intracranially administered ethyl iodophenylundecylate is considered very unusual, it would appear that late reactions of milder degree may produce symptoms, the nature of which is overlooked. We would reemphasize the importance of careful attention to details of technique such as removal of the ethyl iodophenylundecylate after myelography and special measures to avoid its introduction into the intracranial subarachnoid space.

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MYXEDEMA HEART

ADVANCED FAILURE WITH RAPID RECOVERY

Russell F. Weyher, M.D., Detroit

Recent spectacular surgical therapy in certain cases of heart failure due to congenital anomalies and rheumatic valvular deformities seems to have overshadowed the fact that medical treatment also can produce dramatic improvement in cardiac decompensation from some types of heart disease. Among these, cardiac impairment resulting from thyroid deficiency can apparently be completely corrected. This is not true of the great majority of cases of heart disease, whether medical, surgical, or combined methods of treatment are used. The fact that myxedema in humans can cause diffuse cardiac enlargement, sluggish contractions, and electrocardiographic abnormalities that disappear only after the myxedema is controlled was recorded by Zondek in 1918.[1] Fahr's investigations in this country in 1925 [2] confirmed Zondek's observations and showed that cardiac volume in cases of severe myxedema may be increased 100%. Lerman, Clark, and Means [3] in 1933 showed reduction in the transverse cardiac diameters in 37 out of 48 cases after thyroid therapy.

The following authors have presented cases with serial chest roentgenograms: Schnitzer and Gutmann,[4] Master and Stricker,[5] Schoene and Pollock,[6] Kern and co-workers,[7] Allison,[8] and Ellis and co-workers.[9] None of the cardiac silhouettes in these cases before treatment or before death appear to be as enlarged as that in the case herein reported, although in Schnitzer and Gutmann's case of myxedematous pericardial effusion the cardiac silhouette was nearly as huge in proportion to the chest size.

Presented at the Clinical Conference, Providence Hospital, Detroit, Dec. 21, 1952.

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7. Kern, R. A.; Soloff, L. A.; Snape, W. J., and Bello, C. T.: Pericardial Effusion: Constant, Early and Major Factor in Cardiac Syndrome of Hypothyroidism (Myxedema Heart), Am. J. M. Sc. **217**: 609-618 (June) 1949.
8. Allison, F. G.: Myxedema Heart, Atrial Septal Defect and Hypertension, and Congestive Heart Failure, Am. Heart J. **41**: 620-623 (April) 1951.
9. Ellis, L. B., and others: Effect of Myxedema on Cardiovascular System, Am. Heart J. **43**: 341-356 (March) 1952.

Many patients with cardiac myxedema show varying degrees of pericardial effusion. In the case in this report, the question of effusion in the pericardial sac will doubtlessly occur when the cardiac roentgenographic configuration is studied; however, the patient's collapse after the withdrawal of ascitic fluid made me hesitate to insert a needle through the pericardium. Subsequent progress proved this to be therapeutically unnecessary.

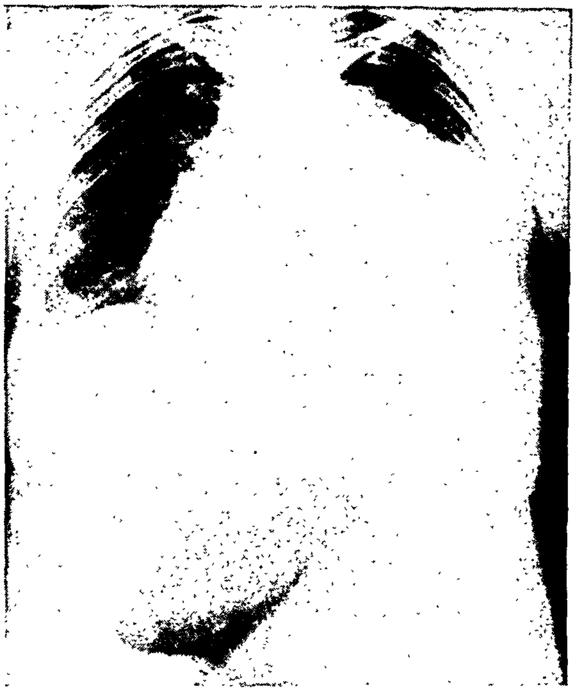

Fig. 1.—Roentgenogram showing cardiac enlargement, particularly on the left, little chronic passive congestion, and gross free fluid.

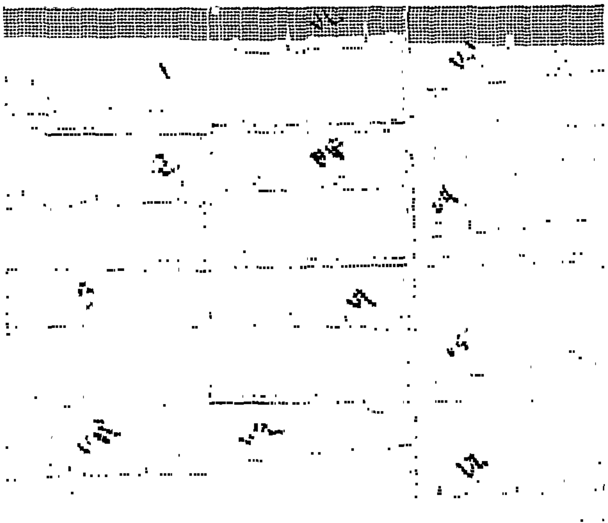

Fig. 2.—Electrocardiographic tracings on Oct. 15, 1951.

Tung[10] has pointed out that in massive pericardial effusion the Q-T interval is normal, whereas White states that in myocardial involvement the Q-T interval is prolonged. In this case, when the patient was first admitted the Q-T interval was 0.38 second, which is within the outer limits of normal for women with this pulse rate. On recovery, however, the electrical systole became considerably shortened (from 0.38 second to 0.28 second) when digitalis was given. There was no fever, no tachycardia, nor any pericardial friction rub heard during this patient's stay in the hospital. Unfortunately, determination of sedimentation rates was never made. Means described the heart in myxedema as characterized by flabby musculature and dilatation of all four chambers, with a reduced minute volume. Advanced congestive heart failure rarely occurs, because with reduction in the heart's capacity for work a parallel reduction occurs in the amount of work it is called on to perform.

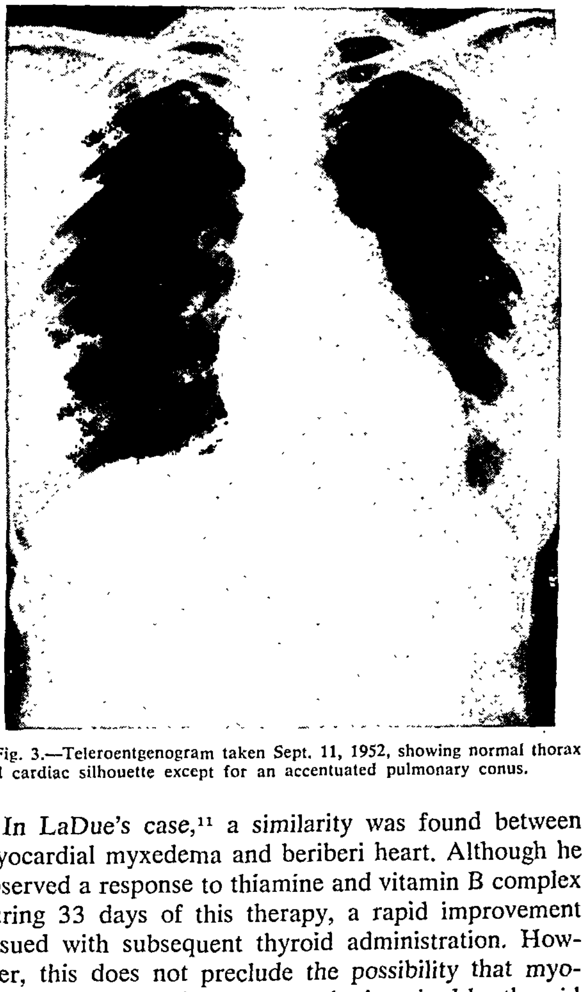

Fig. 3.—Teleroentgenogram taken Sept. 11, 1952, showing normal thorax and cardiac silhouette except for an accentuated pulmonary conus.

In LaDue's case,[11] a similarity was found between myocardial myxedema and beriberi heart. Although he observed a response to thiamine and vitamin B complex during 33 days of this therapy, a rapid improvement ensued with subsequent thyroid administration. However, this does not preclude the possibility that myocardial thiamine utilization may be impaired by thyroid hypofunction, according to Cluxton and co-workers.[12] In this case it was felt that at the start of therapy reduction in intra-abdominal pressure, digitalization, and diuresis were necessary. Next in order, thiamine and thyroid were administered to aid in metabolic recovery of the damaged myocardium. Ten months later it was considered safe to remove a possible focal infection in the calculus in the gallbladder, which may have caused hepatic impairment. On reflection, although the thyroid dosage administered and its rapid increase seemed large, the possible strain on the coronary arteries was felt to be not too hazardous.

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[10] Tung, C. L.: Duration of Electrical Systole (Q-T Interval) in Cases of Massive Pericardial Effusion, Am. Heart J. **22**: 35 (July) 1941.

[11] LaDue, J. S.: Myxedema Heart: Pathological and Therapeutic Study, Ann. Int. Med. **18**: 332-344 (March) 1943.

[12] Cluxton, H. E., Jr.; Bennett, W. A., and Kepler, E. J.: Anterior Pituitary Insufficiency (Panhypopituitarism—Simmonds' Disease), Pituitary Myxedema and Congestive Heart Failure (Myxedema Heart): Report of Case and Findings at Necropsy, Ann. Int. Med. **29**: 732-745 (Oct.) 1948.

REPORT OF A CASE

A 47-year-old white woman was first examined in Providence Hospital on Oct. 9, 1951, having been referred to me by Dr. James Morley, whom she had consulted intermittently the previous summer for shortness of breath and increased size of her abdomen. For the previous two months her waist had felt very tense and she had to lie on three pillows to sleep at night. There was increasing frequency of urination, swelling of the ankles and labia majora on standing or walking, but no pain nor soreness anywhere, including the pericardium.

Her family history showed no evidence of goiter nor other familial diseases. Her husband's health was good, and she had one living child. In 1944 a hysterectomy was performed for "vaginal bleeding." Later that year a thyroidectomy was done for "hypertension and shortness of breath," and this was followed that autumn by an appendectomy. For three years she had had flatulence, "bloating," and indigestion, especially after eating rich or fatty food.

When observed, the patient, a small white woman, lay flat in bed, except for two pillows that raised her head. She was listless, apathetic, and slow to answer questions. There was no apparent discomfort except when she was raised to a sitting position. She then became cyanotic, began to gasp, and showed much distress. The neck veins showed marked distention and increased pulsation, both aggravated when she assumed an erect posture. The pulse rate was 58 beats per minute, the temperature 97.4 F, and the respirations 16 per minute. Her color was sallow, with conjunctival pallor and paleness of the cheeks and tongue. The skin was very dry, rough, and especially thickened over the elbows and knees. The extremities felt cold. Scars were present transversely over the anterior neck, vertically over the midabdomen, and in the right lower rectus region. The cervical lymph nodes were palpable, and a small soft mass was present in the right breast. (This disappeared some months later.) The chest was symmetrical and flat to percussion except in the apices, but diminished excursion was present on the left side. Fine crepital rales were heard throughout the lower two-thirds of both lungs posteriorly. The apex impulse was not felt, and heart sounds were almost inaudible. The abdomen was enormous and tense, and shifting dulness in both flanks was very obvious. No intra-abdominal masses could be palpated. Edema was present in both labia majora, the lower sacrum, thighs, legs, and ankles. Portable x-ray studies the next morning showed gross cardiac enlargement, mainly to the left, with surprisingly little chronic passive congestion and gross free fluid obscuring all details within the abdomen (fig. 1).

The anatomic diagnoses were advanced heart failure with hypertension and massive ascites, with pulmonary congestion and generalized dependent edema. Etiologically the following conditions were considered: (1) advanced rheumatic heart disease, (2) cardiac cirrhosis, (3) intra-abdominal neoplasm, (4) myocardial failure following a coronary occlusion, (5) hypertensive cardiovascular renal insufficiency, (6) heart failure in beriberi, and (7) heart failure in myxedema.

Therapy.—On Oct. 11, the patient was given digitalis and then ammonium chloride, 45 gm. daily, and a sodium-restricted diet. On Oct. 12, Dr. Morley removed 4,500 cc. of straw-colored ascitic fluid through an abdominal trocar. A cell block of the settled fluid showed a nonspecific inflammatory reaction. Immediately after the paracentesis, the patient collapsed and went into shock. The pulse became imperceptible, she became an ashen color, and the blood pressure dropped to 60/20 mm. Hg. Six minims of methamphetamine hydrochloride (Drinalfa) and 250 cc. of blood plasma were administered intravenously, and the patient then recovered. On Oct. 13, 75 mg. of thiamine were given intramuscularly with 0.25 mg. of digoxin daily.

Course.—An electrocardiogram on Oct. 15 showed a sinus rhythm, a rate of 68, with a PR interval of 0.16 second in duration and a QRS interval of 0.06 second. There were inverted T waves in leads 2, 3, and AVF, with diphasic T waves in leads V4, V5, and V6 (fig. 2). The relatively slow pulse (58 per minute on admission) and subnormal temperatures persisted during the patient's entire hospital stay of 30 days. During the last week, however, the daily temperatures tended to rise toward the "normal" chart line.

After the abdominal paracentesis, diuresis occurred and there was some reduction in the edema. The patient remained listless, however, and showed a lack of interest in her surroundings and in her condition. On Oct. 13 the blood pressure was 108/72 mm. Hg. On Oct. 19, 1.5 cc. of meralluride, a mercurial diuretic, was administered. This was repeated two days later and then again every third day. Very little change in the edema occurred. On Oct. 23, 30 mg. of desiccated thyroid extract was administered daily and the dose increased every other day, until by Nov. 1, 90 mg. were being given. At this time the patient's condition rapidly changed. She became alert and vivacious, and practically all of her visible edema disappeared.

On Oct. 24, permission to get out of bed was granted. The blood pressure was 128/80 mm. Hg, the pulse rate 64, and the patient's abdomen was soft, with the liver edge 5 fingerbreadths below the right costal margin. The labia, thighs, and legs showed no edema.

Multiple chest teleroentgenograms taken Nov. 5 were interpreted as follows: "The bilateral passive pulmonary congestion present Oct. 10 has cleared. There is improvement in the general cardiac enlargement. Evidence of left auricular enlargement is still present."

Serial Laboratory Studies

	1951			1952	
	Oct. 10	Oct. 31	Nov. 8	Sept. 9	Dec. 9
Basal metabolism, %	...	−14	1+	22+	10+
Blood cholesterol, mg. per 100 cc.	200	255	...	240	225
Hemoglobin, gm. per 100 cc.	16	12	...	13	14
Erythrocytes, millions	4.9	4.3	...	4.1	4.2
Leukocytes	4,750	5,400	...	5,600	6,100
Cephalin flocculation, 48 hr.	3+	...	2+	...	Normal
Sulfobromophthalein (Bromsulphalein) retention, % at 1 hr.	16	...	...	...	8
Thymol turbidity, units per 100 cc.	...	6	...	...	...
Icterus index	...	...	6.2	...	4.1

On Nov. 7, 1951, she was able to sleep horizontally and to walk about in the room and to the toilet without experiencing dyspnea. The next day, the cardiac sounds were regular, with no audible murmurs. The apex beat was in the anterior axillary line, the liver edge was 4 fingerbreadths below the right costal margin when the patient was in the sitting position, and there was no visible edema. She was discharged home with a regimen of 90 mg. of thyroid extract daily and a capsule of a multiple vitamin formula. On Sept. 11, 1952, about 10 months later, she was readmitted to the surgical service. The blood pressure was 140/70 mm. Hg with a normal pulse rate. A teleroentgenogram showed the thorax and cardiac silhouette to be normal except for an accentuated pulmonary conus (fig. 3).

The next morning cholecystectomy was performed by Dr. Frank Porretta, who found a thickened gallbladder containing five faceted calculi with multiple pericholecystic adhesions. When the abdomen was opened, the liver appeared normal, with a sharp axe-like edge. The patient was discharged on the eighth day with an uneventful convalescence.

During her hospital stay six normal routine urinalyses were performed. On Oct. 10, 1951, the fasting nonprotein nitrogen was 37 mg. per 100 cc., and one month later the fasting blood glucose was 103 mg. Initially, the total leukocyte count tended to be slightly low. Fasting blood serum cholesterol estimations were not high in this case, but the values rose somewhat as compensation was established and thyroid extract was administered. This rise may be due to cholesterol mobilization and has been observed in other cases of thyroid deficiency.

On March 12, 1953, the patient was reexamined. She had no complaints. Results of the physical examination were essentially negative, including that of the heart. She was taking 90 mg. of thyroid extract daily, but no other medication. A teleroentgenogram of the chest showed no change from that of September, 1952. The electrocardiogram showed normal graphs, i. e., the previous T wave inversions had become normally upright.

SUMMARY

A case of heart failure associated with myxedema secondary to thyroidectomy and uncomplicated by coronary disease, valvular involvement, angina, or prolonged hypertension, with extreme enlargement of the cardiac silhouette, is presented. In spite of some opinions that such hearts will not respond to conventional therapy before thyroid is given, this patient showed excellent response to such a regimen. Parenterally administered thiamine injections, together with thyroid extract, may have aided in the patient's rapid recovery. Although the heart is clinically and electrocardiographically normal at present, a teleroentgenogram demonstrates persistent enlargement of the pulmonary conus. This sequel has occurred in other cases.

2415 W. Grand Blvd.

EXFOLIATIVE DERMATITIS FOLLOWING INGESTION OF PHENYLBUTAZONE (BUTAZOLIDIN)

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and

Josephus Reynolds, M.D., Los Angeles

Phenylbutazone (Butazolidin) is the pyrazole derivative 4-butyl-1,2-diphenyl-3,5-pyrazolidinedione sodium. It is being used extensively in the treatment of rheumatoid arthritis, ankylosing spondylitis, arthritis with psoriasis, degenerative joint disease, acute peritendinitis, and gout. Over 10% of patients have been reported unable to tolerate the drug. Reported toxic manifestations include morbilliform rash, edema, nausea, activation of peptic ulcer, vertigo, stomatitis, insomnia, nervousness, thrombocytopenia, and agranulocytosis. It has been said[1] that a rash occurs in only 3 to 4% of patients, that it "subsides rapidly on discontinuance of medication," and that desensitization with minute doses of phenylbutazone has "made possible continuation of therapy in some of those who show rashes."

As we were unable to find any reference in the literature to exfoliative dermatitis attributable to the drug and as we feel that our case indicates that continued use of the drug may be definitely dangerous and absolutely contraindicated after a rash has been observed, this instance of exfoliative dermatitis following the ingestion of phenylbutazone seems to merit prompt reporting.

REPORT OF A CASE

A 60-year-old white housewife was seen by an orthopedist for treatment of a whiplash injury of the neck sustained in an automobile accident on Oct. 14, 1952. She began to take phenylbutazone on Oct. 17, 1952. She took 4 tablets (200 mg. each) daily and stopped after taking 29 tablets over a period of about one week. The patient noticed a slight rash after she took the 16th tablet but did not notify her physician until she had taken 29 tablets. He advised immediate suspension of the medication and referred her to an internist (J. R.), who first saw her on Nov. 6, 1952.

Examination revealed fever, puffiness of the face, burning sensation on the skin, and a morbilliform rash on the face and trunk, but practically none on the extremities. On Nov. 8, 1952, she felt "hot and puffy," vomited, and had frequent bowel movements. The rash was now generalized, confluent, and morbilliform. Her hands and face were swollen, and her fingers were stiff. Her temperature was 102 F, and she was drowsy. Her appearance suggested a serum sickness type of reaction. Cortisone acetate was prescribed in initial dosage of 200 mg. every 24 hours, and she was also given diphenhydramine (Benadryl) hydrochloride. On Nov. 10, 1952, the skin of the hands and fingers was tight, and the rash had a purplish color. The palms and soles began to itch. Cortisone dosage was increased to 400 mg. per day, but the woman's temperature remained at 102 F. On Nov. 12, 1952, itching continued, but the swelling subsided somewhat. There was generalized lymphadenopathy with considerable enlargement of axillary, epitrochlear, and inguinal lymph nodes. The liver was felt 2 in. (5.08 cm.) below the right costal margin. Therapy with cortisone (100 mg. per day) and diphenhydramine was continued. The rash began to subside, and the patient felt considerably better.

Blood Findings in Woman with Exfoliative Dermatitis Following Ingestion of Phenylbutazone

	11/12/52	11/18/52	11/24/52	12/15/52	12/22/52	12/28/52	1/5/53
Erythrocytes, millions	4.26	4.51	4.30	3.50	4.28	4.12	3.95
Hemoglobin							
Gm./100 cc.	12.9	13.3	12.6	12.2	12.0	12.0	10.3
%	81	83	79	..	78	78	66
Color index	0.96	0.92	0.91	0.92	0.91	0.95	0.84
Leukocytes	25,800	16,200	11,250	11,500	9,000	11,300	9,700
Polymorphonuclears							
Total, %	14	37	50	66	58	49	70
Stab forms, %	3	2	4	9	11	8	28
Segmented, %	11	35	46	57	47	41	42
Eosinophils, %	0	0	0	1	0	1	0
Basophils, %	1	0	1	0	0	1	0
Monocytes, %	15	8	9	3	4	3	6
Monocytoid cells, %	60	0	5	..	..	..	..
Lymphocytes, %	10	55	35	30	38	46	26
Metamyelocytes	..	..	..	..	..	..	1
Heterophil agglutination	Negative						
Serum albumin, gm./100 cc.	4.5	..	..	..	..	..	..
Serum globulin, gm./100 cc.	1.3	..	..	..	..	..	..
Total proteins, gm./100 cc.	5.8	..	..	..	..	..	..
Sedimentation rate, mm./hr.	..	..	..	..	10	12	46
Packed cell volume, %	..	..	..	..	41	38	37

It is of interest to note that the initial blood studies (Nov. 12, 1952), made when the patient presented a serum sickness type of reaction, revealed a preponderance of monocytic cells. Subsequent blood tests showed a gradual return to normal. At no time was there any evidence of eosinophilia or granulocytopenia. Pertinent blood findings appear in the table. Examination of the bone marrow was made on Nov. 24, 1952, with the following findings: Smears and sections of aspirated sternal bone marrow revealed a normal dispersion of erythroid and myeloid elements. Platelets and megakaryocytes were abundant. No cells foreign to marrow were observed.

A relapse occurred on Nov. 18, 1952. The woman's face again became swollen to twice its normal size. There was a recurrence of the eruption, which was papular and confluent with marked itching. There was no adenopathy, hepatomegaly, or splenomegaly. Inasmuch as the rash was becoming progressively severer and more widespread, a dermatologist (H. C. F.) was consulted on Nov. 24, 1952.

The patient was then treated with fractional x-ray therapy, potassium permanganate 1:5,000 baths, and methapyrilene hydrochloride (Histadyl) orally and intramuscularly. After three weeks of this treatment, the rash was still getting worse. The patient was then admitted to the hospital, and hydrocortisone acetate was administered orally in doses of 40 mg. four times a day. The potassium permanganate baths were continued. Within a few days, the dermatitis began to subside, and slow improvement continued daily and without further exacerbation. The patient was discharged from the hospital on the 27th day feeling better but very weak, with residual generalized erythroderma and swelling of the hands and feet. The dose of hydrocortisone acetate was reduced to 60 mg. daily. At home, the patient was given hydrocortisone acetate for the next four months, and the dosage was gradually reduced. By that time her skin had just returned to normal, but the hair of the scalp remained very sparse.

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[1] Kuzell, W. C., and Schaffarzick, P. W.: Phenylbutazone (Butazolidin®), Bull. Rheumat. Dis. 3:23 (Nov.) 1952.

When first seen by the dermatologist, after the rash had been present for about two months, the skin showed a diffuse erythema, with mild exfoliation and thickening involving the entire body, but most extensively on the chest, abdomen, anterior upper and lower arms, anterior thighs, and dorsum of the hands and wrists. There were also reddish to purplish, discrete, flat, large papules scattered throughout. After three weeks, at the time of admission to the hospital, the rash had become much worse and showed a very marked exfoliation with considerable thickening, edema, and weeping in many of the crease areas.

After oral administration of hydrocortisone acetate, the exfoliative dermatitis began to clear in a few days and was practically gone in one month. It required four more months for the remaining erythroderma to subside and for the skin to return to normal. A biopsy of the skin from the dorsum of the left hand on Nov. 24, 1952, showed hyperkeratosis, marked edema of the upper cutis, and marked infiltration with small, round cells of the mid-cutis, especially perivascularly.

SUMMARY AND CONCLUSIONS

A case of exfoliative dermatitis following the ingestion of 29 200 mg. tablets of phenylbutazone (Butazolidin) in a 60-year-old white housewife is reported in detail. This patient was acutely ill, and for a while it seemed that she might not live. The total duration of her illness was seven months, from onset to recovery. We believe this is the first such case reported.

It is felt that phenylbutazone is a potentially dangerous drug that should not be prescribed indiscriminately or without close supervision and observation of the patient. Before advising its use, the physician should give very careful consideration to the disability, discomfort, and danger inherent in the disease being treated, in comparison with the possible hazards of the medication. Our experience indicates that, even after cessation of phenylbutazone therapy, a rash can continue to progress and can develop into an almost fatal exfoliative dermatitis. Such an eventuality casts grave doubts on the validity of published statements that the rash subsides rapidly after discontinuance of medication and that it may be safe to continue therapy after desensitization by minute doses.

105 N. San Vicente Blvd. (Dr. Fishman).

Gastrointestinal Disorders and Flying.—It is logical that flying should be interdicted for patients having lesions of the gastrointestinal tract that might perforate under the stress of rapidly expanding gas. This applies to patients with active peptic ulcer. Patients with quiescent ulcers may travel in pressurized aircraft. They should be given carminatives for flatulence, and hyoscine to prevent air sickness. Patients with diverticulosis should not fly. Entrapment of air in a diverticulum is quite painful, and perforation is possible. . . . Diaphragmatic hernia is another contraindication to flying. A patient with a colostomy should stay on the ground. While there he may have perfect control over the colostomy, at higher altitudes expansion of intestinal gases may be attended by disagreeable and embarrassing results.—S. Kreinin, M.D., Which Patients May Fly, *GP (Journal American Academy General Practice)*, August, 1953.

COUNCIL ON FOODS AND NUTRITION

The following article was prepared at the request of the Council on Foods and Nutrition.

James R. Wilson, M.D., *Secretary.*

TRACE ELEMENTS IN BRUCELLOSIS

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Assertions that trace elements have a prophylactic or therapeutic effect on Brucella infections in man and lower animals have been circulated widely. These claims have been based on uncontrolled observations. The results of a controlled experiment on cattle indicate that the addition of a trace element supplement to a practical dairy ration had neither a prophylactic nor a therapeutic effect on the course of experimentally produced brucellosis. Animals fed the unsupplemented ration and vaccinated with Br. abortus strain 19 were significantly more resistant to the induced infection than the supplement-fed cattle. The control ration apparently furnished adequate amounts of the trace elements, since there were no differences in the concentrations of these elements in the blood or livers of animals fed the basal or supplemented diet. Significant differences were not observed in the concentrations of trace elements in the tissues of animals that resisted the infection as compared with those that had been susceptible. The available evidence does not support the claims advanced for the prophylactic or therapeutic efficacy of trace elements in brucellosis.

Claims that brucellosis is fundamentally a syndrome of trace element deficiency—or that such a deficiency occurs frequently, both in domestic animals and human beings, and is a major factor in the susceptibility of the host to invasion by Brucella—have been circulated widely.[1] These claims apparently stem from a report[2] that spectroscopic analysis of the blood and pituitary glands of cattle with Brucella agglutinins revealed significantly lower concentrations of manganese, copper, and cobalt than those observed in the tissues of normal animals. So-called practical feeding experiments are claimed to have shown that supplementation of the ration of infected cattle with manganese, copper, and cobalt resulted in the loss of specific agglutinins.[3] On the basis of such assertions trace elements claimed to be "Bang's disease cures" have been sold to many livestock owners. Also, trace elements have been said to have therapeutic efficacy in human brucellosis.[4]

Adequate controls were not included in the trials cited in support of the efficacy of trace elements. It should be emphasized that absence of the cardinal sign of abortion from a herd of cattle cannot be construed as evidence of freedom of infection. Studies of the natural course of the disease[5] indicate that infected animals rarely abort more than once after initial exposure but that most remain carriers of the infection. In the normal course of events storms of abortion in infected herds occur only when the population of susceptible animals reaches a sufficient concentration. Between these dramatic episodes infection is maintained in carrier animals, most of which reproduce quite normally. The use of almost any material in a herd of cattle after an abortion storm will appear, to the uncritical observer, to have effected a change in the clinical picture in the herd. A variety of products have been sold to livestock men as therapeutic agents for brucellosis of cattle. The results of controlled experimental studies have shown some of the most widely advertised of these to be without merit.[6] It appears that the reputed success attending their use in the field was attributable to the natural tendency

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From the Department of Veterinary Science, College of Agriculture, University of Wisconsin (Paper N.S.123).

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of the abortion phase of the disease to be self-limiting in individuals and to occur in cycles in herds.

Observations of serologic reversals in cattle, such as those cited above, following the use of supposed therapeutic agents must also be examined critically unless the trials include adequate numbers of control animals not given the material. Spontaneous serologic reversals occur in cattle over varying periods of time after initial exposure. Beach and co-workers[7] found that 14 of 37 seropositive infected cattle in one experimental herd lost their agglutinins over a two year period after the initial exposure. No treatment was employed. Winner[8] has observed an incidence of serologic reversals of about 17% in several thousand animals tested in an official eradication program. Similar spontaneous recoveries, with serologic reversals, have been observed by Spink[9] in 10 of 65 untreated cases of human brucellosis.

The adequacy of the diagnostic criteria employed is a fundamental consideration, which must be made in evaluating the reports of antibrucellar activity of trace elements (or any other chemotherapeutic material) in human beings. This is particularly true in chronic brucellosis.[10] Diagnostic criteria for human brucellosis have been discussed in two recent reviews.[11]

Although evidence has been presented that indicates that the nutritional state of the host may exert a profound effect on its response to a variety of infectious agents, most of these effects are demonstrable only by the use of restricted rations.[12] In a study by Hart and co-workers[13] it was found that "A high plane of nutrition, involving the feeding of alfalfa hay, minerals, cod liver oil and iodized salt had no effect in developing a resistance in cattle to Brucella abortus, as compared with a ration of lower protein content supplemented with common salt but no other minerals." The trace elements were not specifically considered in this study.

Frank states of copper or cobalt deficiencies have been recognized in cattle and sheep under natural conditions in areas where these elements are present in the soil in amounts insufficient to supply the requirements of the animals.[14] Quantitative requirements of manganese for farm animals have been established only in the case of poultry. The needs for swine are certainly much lower than for chicks, but published data on their actual requirements are not in agreement. Although little is known about the requirements of manganese for cattle, its content in the feeds that commonly make up their rations appears to be high enough to meet their probable needs.[14] The occurrence of deficiencies of these trace elements in the normal human diet is highly improbable.[15]

Evidence has not been furnished of increased prevalence of bovine brucellosis in areas where the soil is deficient in trace elements. Nor has the addition of manganese to fertilizer mixtures or to the ration influenced the prevalence of the disease in the manganese deficient areas in Florida. Davis[16] has investigated 30 infected cattle herds in that state. Of these, 27 had been fed manganese as a regular constituent of a mineral mixture and were on farms where manganese was included in the fertilizer applied to pastures. In addition, a brucellosis outbreak occurred at the Everglades Experiment Station among cattle being fed manganese and on pastures heavily fertilized with this element.

A controlled study of the effects of trace elements on bovine brucellosis has been conducted at the University of Wisconsin[17] as a part of a large-scale investigation on this disease.[18] The trial involved 5 experimental groups of approximately 20 cows per group. All groups were maintained throughout the experimental period on a practical dairy ration composed of either mixed legume hay or legume hay with corn silage, together with a grain mixture, with the following composition: Whole oats, 19%; corn or wheat, 48%; bran, 17.5%; soybean oil meal, 15%; and iodized salt, 0.5%. One group of 19 unvaccinated animals received a trace element supplement, one part of which was mixed with 99 parts of the grain mixture. The proportions of the mineral mixture were: Techmangam (product of Tennessee Eastman Corp., containing 65 to 67% $MnSO_4$), 100: $CuSO_4$, 1.0; $CoSO_4$, 1.5; $ZnSO_4$, 0.5; and $MgSO_4$, 3.0. The supplemented grain mixture was fed to the animals of the group during a 4½ month period before experimental exposure to Br. abortus and for a period of 11 to 18 months after that exposure. The levels fed furnished a minimal daily intake of one ounce of the trace element mixture per cow.

The animals in all groups were exposed by instillation of 12×10^6 organisms of a highly pathogenic culture of Br. abortus (strain 2308) into the conjunctival sac. Sixteen of the 19 animals fed trace elements, and 18 of the 22 unvaccinated, unsupplemented control cows were pregnant at the time of exposure. Careful bacteriological and serologic studies were made of all animals. The experimental design permitted comparison of the response to infection between groups of unvaccinated animals with or without supplemental trace elements in the ration and further comparison with the response of vaccinated animals that had not received the trace element supplementation. The results are summarized in table 1.

Response to Brucella of Trace Element-Fed Cattle, Control Cattle, and Unsupplemented Vaccinated Cattle

	Abnormal Parturitions		Normal Parturitions		Nonpregnant			
Group of Cattle	Infected Cattle	Non-infected Cattle	Infected Cattle	Non-infected Cattle	Infected	Non-infected	Sero-positive Animals*	Total Animals per Group
Trace element-fed	12	0	1	3	1	2	17	19
Controls	14	1	3	0	2	2	22	22
Vaccinated before maturity	3	1	0	10	0	0	8	14

* Animals were classified as seropositive if at any time during the postexposure period the agglutinin titer was 1:100 or higher.

Of the 16 pregnant, supplement-fed animals, 12 aborted, as did 15 of the 18 pregnant control cows, and 4 of the 14 vaccinated cows. Br. abortus was isolated from 14 of the 19 trace element-fed cattle, from 19 of the 22 controls, and from 3 of the 14 vaccinated cows. It is clear that there was no difference between the group fed trace elements and the unvaccinated controls in their resistance to induced infection with Br. abortus. On the other hand, vaccinated animals that had not received the trace element supplemented ration were significantly more resistant to the same experimental infection than the animals of either of the unvaccinated groups.

Animals from the various groups were maintained on the test rations for periods of 11 to 18 months after the experimental exposure to determine whether differences in the rate of spontaneous recovery from infection might become apparent. Serum agglutination tests and cultures of the milk were made at regular intervals during this period. Differences were not apparent between the trace element-fed group and the unvaccinated controls in the number of times Br. abortus was isolated from the milk or in the number of serologic reversals.

Analytical studies were also carried out by the Wisconsin group[19] to determine the concentrations of trace elements in the blood and livers of animals in the various experimental groups of animals. Blood samples were obtained before and after the experimental exposure. Liver samples were taken from many of the animals at necropsy following exposure. The authors concluded that the unsupplemented ration supplied abundant amounts of copper, zinc, cobalt, and manganese, since significant differences were not observed in the concentrations of these elements in the blood or livers of animals fed the basal ration or those fed the trace element supplemented diet. It appears that animals that receive adequate supplies of the trace elements are unable to store in the liver additional amounts that might be furnished by dietary supplements. Comparisons also were made of the concentrations of trace elements in the livers of animals that had resisted the infection as compared with those that had been susceptible. Significant differences were not observed.

The results of this controlled study indicate that the supplementation of a practical dairy ration with trace elements, in proportions recommended by the supporters of the efficacy of such products, has neither a prophylactic nor a therapeutic effect on the course of experimentally produced bovine brucellosis. The use of such products cannot be expected to aid in the control of animal brucellosis. Indeed, their use, to the exclusion of proved effective methods of control based on sanitation and vaccination, may result in seriously undermining basic control and eradication programs.

Since cases of human brucellosis occur only as a result of direct or indirect contact with the animal reservoirs of the disease, the problem of control of the infection in human beings depends on control and eradication of the disease in the livestock population. Certainly the results of experiments on the natural host of Br. abortus do not support the claims advanced for the therapeutic efficacy of trace elements in infections of human beings.

ACCEPTED FOODS

The following products have been accepted as conforming to the rules of the Council.

James R. Wilson, M.D., *Secretary.*

Matchless Brand Dietetic Pack Golden Sweet Corn (Cream Style).

Ingredients: Golden cross variety corn, packed in water without any added sugar or salt.

Analysis (submitted by distributor).—Total solids 22.7%, moisture 77.3%, fat (ether extract) 1.06%, protein (N × 6.25) 2.56%, crude fiber 0.32%, available carbohydrate 17.88%, sodium 3.20 mg./100 gm.

Calories.—0.91 per gram; 26.0 per ounce.

Use.—For use in low sodium and other therapeutic diets.

Matchless Brand Dietetic Pack Whole Kernel Corn.

Ingredients: Tendermost variety corn packed in water without any added sugar or salt.

Analysis (submitted by distributor).—Total solids 17.4%, moisture 82.6%, fat (ether extract) 0.51%, protein (N × 6.25) 2.04%, crude fiber 0.33%, available carbohydrate 13.81%, sodium 1.2 mg./100 gm.

Calories.—0.68 per gram; 19.3 per ounce.

Use.—For use in low sodium and other therapeutic diets.

Matchless Brand Dietetic Pack Sweet Peas.

Ingredients: Peas (surprise variety) packed in water without any added salt.

Analysis (submitted by distributor).—Total solids 11.7%, moisture 88.3%, fat (ether extract) 0.20%, protein (N × 6.25) 3.14%, crude fiber 1.34%, available carbohydrate 5.33%, sodium 8.58 mg./100 gm.

Calories.—0.36 per gram; 10.2 per ounce.

Use.—For use in low sodium and other therapeutic diets.

A STATEMENT CONCERNING VITAMIN D PREPARATIONS REGARDED AS SUITABLE FOR USE IN COUNCIL-ACCEPTED VITAMIN D FORTIFIED MILKS

Concurrent with the increasingly wide use of vitamin D-fortified milk, a number of vitamin D concentrates containing various emulsifying agents have come into use. The safety of some of these emulsifiers does not appear to have been completely established as yet. It is the considered opinion of the Council that such substances should not be incorporated in foods for widespread use until convincing evidence is available demonstrating their harmlessness. Therefore, only those vitamin D concentrates containing emulsifying agents permitted as optional ingredients in standards for foods under the Food, Drug, and Cosmetic Act will be considered as suitable for use in Council-accepted vitamin D milks or other accepted products.

COUNCIL ON PHYSICAL MEDICINE AND REHABILITATION

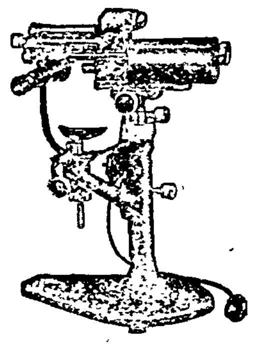
APPARATUS ACCEPTED

The following additional products have been accepted as conforming to the rules of the Council on Physical Medicine and Rehabilitation of the American Medical Association for inclusion in Apparatus Accepted. A copy of the rules on which the Council bases its action will be sent on application.

Ralph E. De Forest, M.D., *Secretary.*

Rodenstock Eye Refractometer

Optische Werke G. Rodenstock, Munich 5, Germany. Distributor: Anton Heilman, 75 Madison Ave., New York 16.



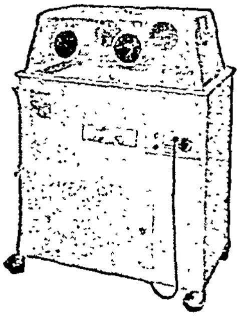
Rodenstock Eye Refractometer

The Rodenstock Eye Refractometer is an instrument for measuring the total refractive power of the eye and determining its astigmatism, including the inclination of axis. Crated for shipment, the instrument measures 49 by 78 by 66 cm. (19 by 21 by 26 in.) and weighs 50 kg. (110 lb.). This shipping weight includes the following accessories: a schematic eye for practice, a transformer for 110 to 220 volt alternating current or a converter for direct current supply, spare bulbs, sanitary shield, shield for the eye not being examined, plastic cover, carrying case, and a wrench for releasing the instrument from the carrying case.

Evidence from sources acceptable to the Council showed that the instrument was sound in principle as a means of measuring ametropias and astigmatism.

Infantair, Model 1500

Continental Hospital Service, Inc., 18636 Detroit Ave., Cleveland (Lakewood) 7, Ohio.



Infantair, Model 1500

The Infantair, Model 1500, is an incubator for infants equipped to supply warmth, humidity, and oxygen. The top, called the Perma-Vue Hood, is a rectangular dome molded out of a single piece of stout transparent plastic substance with two portholes. A nipple is provided for attachment to the supply of oxygen.

The apparatus requires 110 volts of either alternating or direct current and draws 736 watts. It is equipped with casters for rolling on the floor. Unpacked, it measures 123 (height) by 89 by 50 cm. (48½ by 35 by 19½ in.) and weighs 48 kg. (105 lb.). Packed for shipment it weighs 119 kg. (260 lb.) and measures 132 by 94 by 56 cm. (52 by 37 by 22 in.).

Evidence from sources acceptable to the Council indicated that this apparatus is sound in construction and satisfactory in operation.

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"EQUALIZATION PAY" FOR PHYSICIANS IN ARMED FORCES

At the annual meeting of the American Medical Association, which was held in New York City in June of this year, certain questions arose concerning the "equalization pay" authorized for physicians who are serving in the armed forces and in the United States Public Health Service. This editorial has been prepared in accordance with the wishes of the House of Delegates and in order to make public background information concerning the bases and justification for such pay.

The authority for this special pay is contained in Section 203 of Public Law 351, 81st Congress, known as the "Career Compensation Act of 1949," as amended by Public Law 410, 82nd Congress, and Public Law 84, 83rd Congress. This act, as amended, provides for the payment of $100 a month to those officers commissioned in the Medical, Dental, and Veterinary Corps of the regular service and ordered into the active military service prior to July 1, 1955, and to those reserve officers who volunteer for, or are ordered into the active military service prior to July 1, 1955, for a period of one year or longer.

After the close of World War II, the armed forces experienced difficulties in the procurement of physicians. Many members of the peacetime corps were eligible for retirement; many others resigned to obtain civilian positions. At the same time the procurement of new officers became increasingly difficult. This situation would have caused much concern even if our military forces had followed the traditional pattern and rapidly reverted to small peacetime forces. Instead, world conditions subsequent to World War II required that we maintain large forces and global garrisons. As a result, the medical services were not able to maintain, on a voluntary basis, a Medical Corps competent to furnish even a minimal standard of medical attendance to the armed forces.

The Congress, in 1947, explored ways and means of meeting this critical situation. Investigation into the causes of the shortage of medical officers revealed that physicians had to be willing to accept a considerable financial sacrifice if they chose to accept a military career. It would, of course, have been impractical to attempt to eliminate entirely the disparity of income between the civilian physician and the medical officer. However, during the course of the hearings on this plan, it became evident that, entirely apart from this difference in earnings, a basic inequity existed in the pay structure of the armed forces. As a result, Congress selected a reimbursement plan to create, insofar as possible, equality of compensation between the medical officer and the other officers of the armed forces. Such a plan, it appeared, would be equitable and economical, yet provide a necessary vehicle for the procurement and retention of career medical officers.

The question of equality of compensation requires some clarification. Although the American Medical Association has not made a comparative study of the incomes of physicians in service and in civilian life, nor of the incomes of officers in the various branches of the armed services, the figures compiled by the Office of the Surgeon General of the Army appear to be valid. The study of the Surgeon General reveals that a person pursuing a four year technical or scientific course leading to a baccalaureate degree in an accredited university meets, upon graduation, the educational requirements for appointment as an officer. In contrast, a medical student must finance a total college and professional education of up to eight years. Internship requires an additional year of training. His former classmates who have entered the military service in the meantime have been receiving full pay and allowances as officers. When the physician finally meets the requirements for a commission in the armed forces, his former classmates have a four to five year lead. Thirty years after they have started their respective careers, these categories of officers are approximately $81,000 ahead of the medical officer, even though the medical officers are originally commissioned one grade higher. It was on this clearly justifiable basis and in the belief that it would prove to be at least a partial solution to the problem that Congress provided for the equalization pay. All the reasons advanced in the interest of the passage of such legislation at that time have equal if not increased validity today.

As a result of the "emergency," which has existed for the past several years, physicians have been provided from reserve components and directly from civilian life by means of the "Doctor-Draft" law. Many of these physicians are mature and experienced and occupy responsible positions; such officers are now being released from the active military service to return to their civilian practices. To maintain the stability and efficiency of the Medical Corps a percentage of these officers should be replaced by career officers. Thus, the maintenance of an equalization pay is essential if even a minimum number of career officers is to be recruited from this potential source.

It is significant that the payment of this special pay should have had a marked effect upon military procurement programs. Inasmuch as it certainly does not equalize the pay scale of the medical officer and the other officers of the armed forces, it is clear that its effectiveness lies elsewhere. It promises, in effect, fairness of treatment and careful consideration in the advancement toward professional skill, the same consideration evidenced by taking into account the additional years of training that a physician must undergo.

The terms "bonus" or "incentive pay" as applied to additional compensation for doctors are misleading.

These terms make it appear that members of the health professions are being singled out for special treatment not accorded to members of other corps or branches of the service. This was not the intention or the result of the law, which was enacted primarily upon the recommendation of the Department of Defense. The real purpose of the law was to make the pay of physicians in uniform more closely approximate comparative earnings for similar personnel outside of the service and to adjust, in terms of total compensation received during a service career, the amount received by members of the health professions with those received by other career officers.

SERVING THE PUBLIC

There probably are few persons in the United States today who have not heard the words "*public relations*." How many have offered their opinion on how to achieve effective relations is not subject to count, but some who are trained in this field in exasperation have said almost everyone at some time has had some advice to offer. The subject has been of particular concern to the medical profession during the last few years. As a result there have been formed many committees and departments within the associations' framework to deal specifically with public relations. Much has been accomplished by those who have been sufficiently farsighted to see the difference between publicity and public relations. Some of the state medical societies and county medical societies have originated ideas for their members and for the public that have done much to increase and even reestablish in some instances the bond between doctors and patients.

Recently there came to the attention of the editorial department of The Journal a statement placed in a local newspaper by the Los Angeles County Medical Association. This local society offered to the public first aid instructions to meet most household emergencies. The reader can paste the statement, cut from the newspaper, on the back of a medicine cabinet door or in any other equally handy location. Its health value in the household is obvious, and its public relations value should be equally obvious.

In the same mail for The Journal office there was a booklet entitled "Information for Patients" prepared by the Presbyterian Hospital in Philadelphia. Written in a spritely but fully informative way, it tells the patient what he should know before he arrives at and after he enters the hospital. It freely discusses services and costs and even offers a reply to the question "Are hospital charges high?" The booklet is pocket-sized and contains about 50 pages of information on subjects from insurance to birth certificates and even meals for guests. Many frequently heard questions are answered, and the booklet will do much to put the patient, his family, and his guests at ease.

These are examples of the acts of persons genuinely interested in providing health service for the community. Nothing but good can come of such activities, and they, like similar efforts, can be emulated in other centers to the advantage of all.

A JOB WELL DONE

On page 665 of this issue there is published in full the report of Mr. Eugene R. Warren, Special Assistant Attorney General of the State of Arkansas. Mr. Warren has taken several months from his law practice to gather evidence to establish that an eclectic medical license issued years ago to Jacob S. Schirmer was obtained by fraud and deceit. Mr. Warren is to be congratulated for his painstaking thoroughness in assembling documentary proof that Schirmer not only was practicing medicine in Arkansas illegally but was an exponent of unestablished and discredited forms of therapy for which he charged suffering victims of chronic disease large sums of money payable in advance.

Mr. Warren's task was perhaps made easier by reason of the fact that certain departments at the headquarters of the American Medical Association were able to furnish him documentary proof of some of the aspects of the fraud practiced on the citizens of Arkansas from the licensure standpoint and on many others suffering from disease, or believing that they were so afflicted, who had gone to the so-called research hospital. Patients the country over have been urged by certain alleged ministers of the gospel to go to Schirmer for treatment. While it is probably true that the details of his fraudulent character may not have been known to them, nonetheless they found a person outside the pale of organized medicine whose organizational abilities suited their needs in exploiting worthless drugs that they were selling or promoting. Specifically referred to in this instance is Gerald Winrod, an evangelist, radio orator, and publisher, who has written frequently in his "Defender Magazine," praising several widely known cancer quacks, the uselessness of whose medicines and treatments is well known to the medical profession. By "defending" these persons, Mr. Winrod has effectively classified them, as far as the true nature of their activities is concerned.

Also referred to is the Christian Medical Research League of Detroit, in which Mr. Winrod seemed to have much interest and that sells "Glyoxylide" at $25 for 2 cc. ampules. These ampules contain material that has been described by chemists of the federal government as being indistinguishable from distilled water. The preparation has recently been the subject of an order by the Federal Trade Commission directed against Dr. William F. Koch and others, forbidding them to advertise this and their other nostrums as having any therapeutic merit in any of the disease conditions for which they are sold.

If the matter reported on is the subject of testimony in the circuit court of Clay County, Ark., it is entirely possible that further details of this sordid combination will be brought to light. Exploiting human misery is a ghoulish business. To reveal the true nature of those who follow this course of conduct is indeed a service not only to those in Arkansas but to the nation as a whole. It is for this reason that the full report of the investigation is printed. Public and licensing officials elsewhere should be alert to the possibility that similar persons operate in their jurisdictions.

MEDICAL NEWS

CALIFORNIA

Meeting on Cerebral Palsy.—At the meeting of the Cerebral Palsy Association, Oct. 21, 3-5 p. m., at the Los Angeles County Medical Association, 1925 Wilshire Blvd., Dr. Brevin Plum, professor of pediatrics, Royal Hospital Medical School, Copenhagen, Denmark, will present "Early Diagnosis and Treatment of Cerebral Palsy."

Personal.—Dr. Francis Scott Smyth, dean, University of California School of Medicine, San Francisco, has been appointed by President Eisenhower to the board of foreign scholarships for a term of three years. The board is concerned with the management of the Fulbright Fellowship program of the Department of State.

Symposium on Cardiac Disease.—The Los Angeles County Heart Association holds its annual symposium on cardiac disease, Oct. 20-21, at the Wilshire Ebell Theatre, Los Angeles. Dr. Edgar F. Mauer, president of the Los Angeles County Heart Association, will open the meeting at 9:30 a. m. Guest speakers will be Drs. George E. Burch, New Orleans, Lewis Dexter, Boston, Harald M. Eliasch, Stockholm, Sweden, and Paul Wood, London, England. In addition to the presentation of papers, they will participate in a round-table discussion during the Tuesday afternoon symposium on the surgical relief of mitral stenosis, when, together with Dr. George C. Griffith, Pasadena, they will discuss valvulotomy for mitral stenosis, selection of patients, role of cardiac catheterization, and preoperative and postoperative care and results. Dr. William Paul Thompson, Los Angeles, will serve as moderator.

CONNECTICUT

Hospital Lectures.—The Hartford Hospital announces the following lectures in its Saturday morning 11 o'clock series:

Oct. 17, Lewis W. Hill, Boston, Oral Cortisone in Asthma and Eczema in Children.
Oct. 24, John F. Enders, Ph.D., Boston, Some Recent Advances in Poliomyelitis (Dwight Griswold Memorial Lecture).
Oct. 31, William Dameshek, Boston, Idiopathic Thrombocytopenic Purpura.

FLORIDA

State Medical Election.—The Florida Medical Association at its annual meeting in Hollywood installed Dr. Frederick K. Herpel, West Palm Beach, as president; elected Dr. Duncan T. McEwan, Orlando, president-elect, and Drs. Thomas H. Bates, Lake City, Russell B. Carson, Fort Lauderdale, and Thomas C. Kenaston, Cocoa, vice-presidents; and reelected Dr. Samuel M. Day, secretary-treasurer, and Dr. Shaler A. Richardson, editor of the journal, both of Jacksonville.

District Medical Meetings.—The Northwest Medical District of the Florida Medical Association will meet at the W. T. Edwards Tuberculosis Hospital, Tallahassee, Oct. 19. The address of welcome by Dr. Charles F. James Jr., Tallahassee, president, Leon-Gadsden-Liberty-Wakulla-Jefferson County Medical Society, will open the scientific assembly at 2:30 p. m. By invitation Dr. Francisco A. Hernandez, Miami, will present "The Clinical Differentiation of Congenital Heart Lesions Amenable to Surgery," and Dr. Milton S. Saslaw, Miami, "Paradoxical Skin Response in Rheumatic Activity: A Possible Test." Refreshments by the host society will precede dinner, 6:30 p. m., ($5).

The Northeast Medical District will meet at the Ponce de Leon Golf Club in St. Augustine, Oct. 20. The scientific assembly will open at 2:30 p. m. with an address of welcome by Dr. John M. Canakaris, Bunnell, president, St. Johns County Medical Society. Dr. C. Ashley Bird, Jacksonville, will discuss "Diagnosis and Treatment of Intracranial Aneurysms," and Dr. Francisco A. Hernandez, Miami, will discuss, by invitation, "The Clinical Differentiation of Congenital Heart Lesions Amenable to Surgery."

The Southwest Medical District will have its meeting in the Palm Room, Tampa Terrace Hotel in Tampa, Oct. 21. The address of welcome by Dr. Arthur R. Knauf, Tampa, president, Hillsborough County Medical Society, will precede the presentation by Dr. Edward I. Melich, Bay Pines, of "Digitalis Brought Up to Date." By invitation Dr. Milton S. Saslaw, Miami, will discuss "Paradoxical Skin Response in Rheumatic Activity: A Possible Test."

The meeting of the Southeast Medical District, scheduled for the Flotilla Club, West Palm Beach, Oct. 22, will open with an address of welcome by Dr. Graham W. King Jr., Delray Beach, president, Palm Beach County Medical Society, 2:30 p. m. "The Fundamentals of Fluid and Electrolyte Balance (Explanation of Milliequivalents)" will be discussed by Dr. George F. Schmitt Jr., Miami, and "The Treatment of Injuries of the Face and Head" by Dr. George W. Robertson III, Miami. Refreshments by the host society will precede dinner at 6:30 p. m. ($5).

ILLINOIS

Clinics for Crippled Children.—The University of Illinois division of services for crippled children is conducting clinics providing diagnostic orthopedic, pediatric, speech, and hearing examinations together with medical, social, and nursing services. There will be special clinics for children with rheumatic fever and for cerebral palsied children. Clinics are held by the division in cooperation with local medical and health organizations. Clinicians are selected among private physicians who are certified board members. Any private physician may refer or bring to a convenient clinic any child for whom he may want examination or consultative services. The following clinics have been scheduled:

Oct. 21, Chicago Heights, St. James Hospital.
Oct. 22, Bloomington, St. Joseph's Hospital; Mt. Vernon, Masonic Temple; Rockford, St. Anthony Hospital.
Oct. 23, Chicago Heights (Rheumatic Fever), St. James Hospital.
Oct. 27, Effingham (Rheumatic Fever), Douglas Township Building; East St. Louis, Christian Welfare Hospital; Peoria, St. Francis Hospital.
Oct. 28, Springfield (Cerebral Palsy), Memorial Hospital; Alton, Alton Memorial Hospital.

In carrying on its program the division works cooperatively with local medical societies, hospitals, the Illinois Children's Hospital-School, Chicago, civic and fraternal clubs, visiting nurse associations, local social and welfare agencies, local chapters of the National Foundation for Infantile Paralysis, and other interested groups. The work of the division is intended to extend and supplement—not supplant—activities of other agencies, public or private, state or local, carried on in behalf of crippled children.

Chicago

Lectures on Medical History.—The Chicago Medical School, 710 S. Wolcott Ave., announces that the following lectures in its series, "Introduction to the History of Medicine," will be given in Amphitheater A at 12:30 p. m.:

Oct. 20, Ancient Medicine, Erwin H. Ackerknecht, professor of the history of medicine, University of Wisconsin Medical School, Madison.
Oct. 27, Greek Medicine, Frederick Stenn, lecturer, history of medicine, University of Illinois College of Medicine.

Annual Lectures on Cancer.—The fourth annual cancer lecture series at Northwestern University Medical School is offered at Thorne Hall, Chicago Ave. and Lake Shore Dr., at 5 p. m. on Wednesdays. On Oct. 14, Dr. Algernon B.

Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education and public health. Programs should be received at least three weeks before the date of meeting.

Reese, professor of ophthalmology, Columbia University College of Physicians and Surgeons, New York, will discuss ocular neoplasms. Future lectures include:

Oct. 21, Enzyme Levels in the Tumor-Bearing Host, Jesse P. Greenstein, Ph.D., Bethesda, Md.
Oct. 28, Pathologic Diagnosis of Breast Cancer, Otto Saphir, Chicago.
Nov. 4, Carcinoma of the Pancreatoduodenal Area, Richard B. Cattell, Boston.
Nov. 11, Radiation in Tumor Growth, Austin M. Brues, Chicago.
Nov. 18, Carcinoma of the Thyroid Gland, Warren H. Cole, Chicago.
Nov. 23, Clinicopathologic Correlation of Nevi and Malignant Melanomas, Arthur C. Allen, New York.

Meetings for Parents of Preschool Deaf Children.—The Speech and Hearing Rehabilitation Clinic, Illinois Eye and Ear Infirmary, 904 W. Adams St., is sponsoring meetings designed to help parents understand their preschool deaf children and provide preparatory informal training at home until school age is reached. The following lectures will be held at 7:15 p. m.:

Getting Ready to Listen, Oct. 20.
How Your Child Grows, Part I, Oct. 27; Part II, Nov. 3; Part III, Nov. 10.
Experiences in a Nursery School, Nov. 17.
Language and the Pre-Readiness Period, Nov. 24; Dec. 1.
The State and Local Community, Your Child and You, Dec. 8.
Round-Up, Dec. 15.

Demonstrations with children will be held at 10 a. m.: Oct. 26, "Listening," Nov. 30 and Dec. 7, "Lip Reading, Talking, Reading and Writing."

KENTUCKY

Conference on Handicapped Children.—The Kentucky Conference on Handicapped Children will be held at the Seelbach Hotel, Louisville, Oct. 22-23, under the sponsorship of the recently formed Kentucky Coordinating Council for the Study of Handicapped Children and the Nemours Foundation, Wilmington, Del. Dr. Alfred R. Shands Jr., Wilmington, Del., medical director of the foundation, will serve as general adviser to the conference.

University News.—The University of Louisville School of Medicine announces the following appointments: Dr. Earl F. Hoerner, acting chairman of the department of physical medicine and rehabilitation, and acting director of the Rehabilitation Center; Dr. Donald A. Covalt, clinical director of the Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, as consultant to the department of physical medicine and rehabilitation, and to the Rehabilitation Center; and Dr. Hugh B. Lynn, Newark, N. J., as assistant professor of surgery.

MAINE

Legislative Research Hearings.—The Legislative Research Committee of the State of Maine will hold a public hearing Oct. 20, 1:30 p. m., at the state house, Augusta, on the problem of hospital aid, including costs of operation and methods of financial support. The committee will also hold a public hearing Oct. 21, 9:30 a. m., at the state house, on the problem of the organization of public health services.

Mental Health Clinics.—The division of mental health, state department of health and welfare, offers psychiatric clinic service to children and adults in the following cities:

Portland, health and welfare department, 178 Middle St., every Tuesday.
Lewiston, outpatient department, Central Maine General Hospital, every Monday.
Augusta, bureau of health, division of mental health, by appointment.
Waterville, Mansfield Clinic, Thayer Hospital, 3rd Wednesday.
Bangor, outpatient department, Eastern Maine General Hospital, 1st Wednesday afternoon; Valentine School, Union St., 1st Thursday.

A traveling clinic visits the following towns and cities at irregular intervals: Caribou, Houlton, Lincoln, Machias, Rockland, and Rumford. Patients are seen by appointment only. Each child must be accompanied by a parent or guardian. Applications should be sent to the Director, Division of Mental Health, Department of Health and Welfare, State House, Augusta.

MARYLAND

Personal.—At the recent commencement at Washburn University, Topeka, Kan., the alumni association presented a distinguished service award to Dr. Henry R. O'Brien of the U. S. Public Health Service. Dr. O'Brien is a member of the Connecticut State Medical Society. The university conferred on Stacy R. Guild, Ph.D., associate professor of otolaryngology, Johns Hopkins University School of Medicine, Baltimore, the honorary degree of doctor of science.

General Practitioners Meet in Baltimore.—The annual scientific assembly of the Maryland Academy of General Practice will be held at the Lord Baltimore Hotel, Baltimore, Oct. 21. The morning session will be devoted to presentation of "Late Complications of Diabetes: Prevention and Treatment" by Dr. Alexander Marble, Boston, and "The Management of Cardiac Failure" by Dr. Charles C. Wolferth, Philadelphia. Discussion of "The Indications for Pulmonary Resection" by Dr. Herbert C. Maier, New York, 1:15 p. m., will be followed by the speech, "The Management of Osteoporosis," by Dr. Ephraim Shorr, New York. Dr. Robert H. Barter, associate professor of obstetrics and gynecology, George Washington University School of Medicine, Washington, D. C., will present "X-Ray Diagnosis of Pregnancy," 3:45 p. m., and Dr. Charles F. Geschickter, professor of pathology, Georgetown University School of Medicine, Washington, D. C., will discuss "The Newer Treatment of Asthma," 4:45 p. m. The principal address at the banquet will be given by Alfred P. Haake, Ph.D., economic consultant to the General Motors Corporation, whose subject will be "Pills and People." There is no registration fee for the scientific program. Tickets for the banquet ($7.50 per plate for physicians and $5 for their wives) may be obtained from Dr. Nathan E. Needle, 4215 Park Heights Ave., Baltimore 15.

MICHIGAN

Cancer Conference.—The fifth Michigan Cancer Conference will be held at the Kellogg Center, East Lansing, Oct. 21, under the cosponsorship of the Michigan State Medical Society, the two Michigan divisions of the American Cancer Society, and the Michigan Department of Health. The conference theme, "Behind the Scenes in Cancer Control," will be developed by Drs. John S. DeTar, Milan; Solomon G. Meyers, Detroit; Russell L. Mustard, Battle Creek; and James C. Cook, Detroit. Dr. John R. Heller, director of the National Cancer Institute, Bethesda, Md., will report on recent research problems in the cancer field. A five year report on the Hillsdale plan for tumor detection will be given by Dr. Arthur W. Strom, Hillsdale. After luncheon there will be a panel discussion on the morning topics and other questions that the audience may propose. The conference is open to all.

Television Course for Parents.—The University of Michigan Medical School, Ann Arbor, is presenting a course to parents, entitled "The Growing Baby." This telecourse will be carried over television stations WWJ-TV, Detroit, WJIM-TV, Lansing, and WKZO-TV, Kalamazoo, in simultaneous broadcasts. There will be eight consecutive programs, beginning Oct. 18, each Sunday at 1 p. m., originating in the studios of WWJ-TV. The aim of this series is to acquaint parents and prospective parents with the normal physiological processes and growth of their children and with the dangers that may befall their children from birth to about 5 years. "The Growing Baby" is being coordinated by Dr. Harry A. Towsley, associate professor of pediatrics and communicable diseases. The following subjects will be discussed in October:

Lesson 1, Oct. 18, Care of the Newborn, Bruce D. Graham, assistant professor of pediatrics and communicable diseases, and Miss Ruth Carney, RN, assistant professor of nursing.
Lesson 2, Oct. 25, Feeding Your Baby, James L. Wilson, professor of pediatrics and communicable diseases.

Symposium on Virus Infections.—The International Symposium on the Dynamics of Virus Infections will be held at Henry Ford Hospital, Detroit, Oct. 21-23. The Wednesday morning session on mechanisms of virus and rickettsial infections will be moderated by Dr. Thomas M. Rivers, Hospital of the Rockefeller Institute for Medical Research, New York, and the afternoon session on the same topic by Dr. John G. Kidd, Cornell University Medical College, New York. Thursday morning Dr. Albert B. Sabin, the Children's Hospital Research Foundation, department of pediatrics, University of Cincinnati College of Medicine, will be moderator for a discussion on ecology and pathogenesis, and Thursday afternoon Dr. John Paul, Yale University School of Medicine, New Haven, Conn., will moderate a discussion on mechanisms of immunity. "Methods of Virus and Rickettsial Diagnosis" is the topic for the Friday morning session, which will have as moderator Dr. Andrew J. Rhodes, Hospital for Sick Children, Toronto, Canada. Dr. Gilbert J. Dalldorf, division of laboratories and research, New York State Department of Health, Albany, will moderate the closing session Friday afternoon, for which the topic is "Chemical Approaches to Prophylaxis and Therapy of Virus and Rickettsial Diseases."

Institute of Industrial Health.—The Institute of Industrial Health and the School of Public Health, University of Michigan, Ann Arbor, offer a conference on expert and technical testimony in medical and health problems, Oct. 21, at the School of Public Health, 109 S. Observatory St. Dr. Otto Tod Mallery Jr. is director of the institute, and Henry F. Vaughan, Dr.P.H., is dean of the school. The program will include the following presentations:

Attorneys, Technical Witnesses, and the Courts (the conference keynote address), J. Joseph Herbert, LL.B., Manistique.
The Physician's Obligations to the Courts (the medical keynote address), Edward D. Spalding, Detroit.
Judicial Procedure as It Applies to Technical Witnesses, Charles W. Joiner, J.D., Ann Arbor.
Preparation of the Technical Witness Prior to Court Appearance (the attorney's viewpoint), Mr. T. Donald Wade, Detroit.
Medical Preparation of a Medical-Legal Case (the physician's viewpoint), Theodore J. Curphey, Hempstead, N. Y.
Use of Scientific Records and Exhibits in the Court Room, Eli Sherman Jones, Hammond, Ind.
The Dilemma of Official Agencies as to Court Appearance, Mr. William G. Frederick, Detroit.

Dinner at 6 p. m. in the Michigan Union will precede presentation of "Good and Bad Technical Witnesses Based Upon a Compensation Claim in a Simulated Case of Silicosis—A Demonstration," which will be given by a cast of characters including a judge, plaintiff attorney, defense attorney, a court stenographer, good witness, and bad witness. Commentary will be offered by Charles W. Joiner, J.D.

MINNESOTA

Judd-Plummer Memorial Lecture.—Dr. Louis H. Bauer, Hempstead, N. Y., immediate Past President of the American Medical Association, gave the sixth Judd-Plummer Memorial lecture in Rochester, Oct. 2, at St. Mary's Auditorium. His subject was "The Impact of Current Socio-Economic Trends Upon American Medicine."

NEW YORK

Foreign Professors Join State University Staff.—Visiting professors from Brussels, Belgium, Dublin, Ireland, and Birmingham, England, have been appointed to the staff of the State University of New York College of Medicine at Brooklyn for the 1953-1954 academic year. Dr. François Kleyntjens, acting chief, department of neurology, Brussels University Hospital, will serve as visiting professor of physiology. Dr. Edward Solomons, obstetrician and gynecologist of Dr. Steevens Hospital in Dublin, is the guest jointly of the college's department of obstetrics and gynecology and of Maimonides Hospital, Brooklyn, for the month of October. Dr. Solomons is an examiner for membership in the Royal College of Physicians of Ireland. Dr. Brian MacMahon of Birmingham, England, who has spent the past year at the Harvard School of Public Health in the department of epidemiology as a Rockefeller Foundation fellow, has joined the staff of the college's department of environmental medicine and community health, as visiting lecturer.

New York City

Tumor Clinic Conference.—Dr. Harold W. Dargeon, attending pediatrician, Memorial Center for Cancer and Allied Diseases, will be guest speaker at a tumor clinic conference at Harlem Hospital, Oct. 21, 10:45 a. m. His subject will be "Diagnosis of Pediatric Cancer."

Dr. Crohn Honored.—The American Gastroenterological Association has presented to Dr. Burrill B. Crohn the Julius Friedenwald Medal. Dr. Crohn has been affiliated with Mount Sinai Hospital since 1908 and was chief of its gastroenterology clinic from 1924 until 1932, and since that time he has been consultant gastroenterologist. The presentation was made by Dr. Walter C. Alvarez, Chicago.

Lecture on Breast Cancer.—The department of radiology of the New York University College of Medicine will sponsor a lecture, entitled "The Rationale and Results of Simple Mastectomy Plus Irradiation in Treating Breast Cancer," by Dr. Robert McWhirter, professor of radiation therapy, University of Edinburgh, Edinburgh, Scotland, Oct. 22, 8:30 p. m., in the main lecture hall of the university (477 First Ave., near 28th St.).

NORTH CAROLINA

Society News.—The North Carolina Orthopedic Association has elected Dr. Julien E. Jacobs, Charlotte, president; Dr. Everett I. Bugg, Durham, vice-president; and Dr. George W. Holmes, Winston-Salem, secretary-treasurer.

Triennial Alumni Reunion.—The medical and nurses' alumni of Duke University, Durham, will hold their fourth triennial reunion Oct. 22-24. The program will include a scientific session with papers by alumni, special conferences, and departmental open houses. Entertainment will include the Duke-North Carolina State football game, Oct. 24, in Duke Stadium. Dr. Joseph B. Stevens, Greensboro, is president of the Duke Medical Alumni Association, and Arlene Ledford, Durham, is president of the Duke Nurses' Alumnae Association.

OHIO

Society News.—The Cincinnati Otolaryngologic Society has elected Dr. Gerson Lowenthal, president; and Dr. Edward T. Juler, secretary-treasurer. —— The Academy of Medicine of Cincinnati will have as guest speaker Oct. 20, Dr. Frederic A. Gibbs, chief, division of electroencephalography, University of Illinois College of Medicine, Chicago, who will present "Electroencephalography—A Clinical Tool."

Cardiac Poster Contest.—The Cleveland poster art contest sponsored annually in Cleveland schools by the Central Outdoor Advertising Company, is cosponsored this year by the Cleveland Area Heart Society. The subject of the contest is "The Heart and Heart Disease." There will be $600 in awards contributed by J. A. Zimmer. An exhibition will be held in April, 1954, when the prizes will be awarded.

OKLAHOMA

School Health Conference.—Sponsored by the Oklahoma School Health Administrators' Association, Oklahoma Advisory Health Council, Oklahoma State Health Department, and the Oklahoma State Medical Association School Health Committee, the third annual school health conference is being held in Norman, Oct. 16-17. The conference will give attending physicians an opportunity to assist in the planning and development of school health programs. The meeting is scheduled for the week end of the Oklahoma-Kansas football game in Norman, Oct. 17, which is also "Dad's Day" at the university.

TEXAS

Seminars on Social Psychiatry.—The department of psychiatry of the University of Texas Medical Branch, Galveston, announces a special seminar, "The History of Social Psychiatry," to be held each Tuesday at 4 p. m. during the academic year. The seminar group will study psychological factors that contribute to psychiatric disorders.

University News.—Among recent appointments at the University of Texas Medical Branch, Galveston, are those of Dr. Kenneth M. Earle, formerly associated with Dr. Wilder G. Penfield at the Neurological Institute of McGill University, Montreal, who becomes associate professor of neuropathology, and Dr. Truman G. Blocker Jr., professor of surgery at Galveston, who has accepted appointment as dean of the faculty of medicine. Donald Duncan, Ph.D., professor of anatomy, has been appointed associate dean of the Graduate School of the university for the Medical Branch.——Dr. Hans Selye of the University of Montreal Faculty of Medicine, will be a guest speaker on the adaptation reaction, at the medical branch in Galveston, Oct. 22, under the auspices of Phi Delta Epsilon medical fraternity.

VIRGINIA

Bequest to Establish Chair of Surgery.—The late Dr. Stephen H. Watts, from 1907 until his retirement in 1928 professor of surgery, University of Virginia School of Medicine, Charlottesville, bequeathed a half-million dollars to the medical school for the establishment of the Stephen H. Watts Chair of Surgery, any remaining income to be used for research in medicine and surgery.

State Medical Meeting in Roanoke.—The Medical Society of Virginia will meet at the Hotel Roanoke in Roanoke Oct. 18-21, under the presidency of Dr. James L. Hamner, Mannboro. At 11:25 a. m. "The Virginia State Health Department's Legislative Program for Irradication of Tuberculosis" will be presented by Drs. Mack I. Shanholtz, Richmond, commissioner, and William F. Wagner, director, Division of TB Control, Virginia State Department of Health. Monday afternoon Dr. Alexander McCausland, Roanoke, will serve as chairman for a symposium on diagnosis of arthritis and related disorders. Dr. Arnold J. Rawson, Norfolk, will be chairman for a symposium on electrolytes sponsored by the Virginia Society for Pathology and Laboratory Medicine. Dr. Hamner will give the presidential address at 8:30 p. m. Monday. Tuesday morning there will be a cardiology symposium, with Dr. William B. Porter, Richmond, as chairman. Dr. Robert L. King, Seattle, president of the American Heart Association, guest speaker, will discuss "Rheumatic Fever and Heart Disease" at 11 a. m. Panel discussion on cardiac problems will follow. The obstetrical and gynecological symposium Tuesday morning will have as chairman Dr. John R. Kight, Norfolk, and as guest speaker Dr. Charles Hampton Mauzy Jr., professor of obstetrics and gynecology, Bowman Gray School of Medicine, Winston-Salem, N. C., whose topic will be "Obstetrics Now and Twenty-Five Years Ago." A panel discussion will follow his presentation. Tuesday afternoon Dr. Charles S. Wise, professor of physical medicine and rehabilitation, George Washington University School of Medicine, Washington, D. C., will open a symposium with a discussion of the rehabilitation problem. Dr. A. Ray Dawson, Richmond, will moderate a panel discussion on general problems of rehabilitation. Guest speaker in the Tuesday afternoon symposium on lymphomas and leukemias (Dr. Byrd S. Leavell, Charlottesville, chairman) will be Dr. Claude E. Forkner, New York, whose presentation "Advances in Leukemia" will follow a panel discussion on treatment of lymphoma. A cocktail party will precede the banquet, 7 p. m., at which Dr. Vincent W. Archer, Charlottesville, will be installed as president. Wednesday, 9:50 a. m., Dr. Edwin E. Barksdale, Washington, D. C., and associates will present, illustrated with lantern slides, "Some Skin Manifestations of Internal Disorders." A clinical pathological conference will be moderated by Dr. Kinloch Nelson, Richmond, at 11 a. m.

WISCONSIN

State Society to Build New Headquarters.—The council of the State Medical Society of Wisconsin has approved proposals for a building project to house the society's general offices and related activities, now inadequately quartered at 704 E. Gorham St., Madison. The new building will be constructed on society-owned property on the south shore of Lake Monona; the present offices are located on Lake Mendota. Total cost of the new structure is estimated at $415,000.

Pharmacists Institute.—When the Wisconsin Pharmacists Institute meets at the University of Wisconsin, Oct. 22-24, to examine the role of the pharmacist in relation to self-medication and public health, Dr. John E. Steinhaus, University of Wisconsin Medical School, Madison, will speak on antipyretics and analgesics; Dr. Paul G. LaBissoniere, director, Student Health Clinic, Marquette University, Milwaukee, will discuss antacids and laxatives; and Dr. Robert C. Parkin, coordinator of University of Wisconsin graduate medical education, will have as his topic "Self-Medication and Public Health." Papers will be presented on pharmaceutical drug control; miseducation of the public about drugs; oral antiseptic and antibacterial preparations; dental caries; and pharmaceutical legislation. Information may be obtained from Mr. William S. Apple, 301 Chemistry Building, University of Wisconsin, Madison 6.

GENERAL

Fellowship in Gastroenterology.—The American Gastroenterological Association is offering a fellowship for 1954-1955 to a qualified physician in the younger age group to conduct investigative work in gastroenterology. If the physician is unmarried, the stipend is $3,000; if married, $3,600. Applications, which should be returned by Nov. 1, may be obtained by communication with the secretary, Dr. H. Marvin Pollard, University Hospital, Ann Arbor, Mich.

Education of Cerebral Palsied Children.—A "Digest of State Legislation for the Education of Mentally Retarded Children," as it pertains to the cerebral palsied, published by the United Cerebral Palsy Legislative Bureau, is available from the national office (50 W. 37th St., New York 19). Among other essential information, the digest includes a summary of state laws on this subject, as well as a chart of the definitions of mental retardation used in the various states.

Predoctoral Fellowships.—The Life Insurance Medical Research Fund invites faculty members to nominate candidates for 1954-1955 predoctoral fellowships for research in the medical sciences, preferably in the cardiovascular field. Nomination deadline is Nov. 30. The fellowships are open to those who will have completed a year or more of work in a medical or graduate school and can devote most of their time to research; stipends, $2,000-$2,400. Information is obtainable from Dr. Francis R. Dieuaide, scientific director of the fund, 345 E. 46th St., New York 17.

Mental Hospital Institute.—Dr. Kenneth E. Appel, Philadelphia, president of the American Psychiatric Association, has announced that the fifth Mental Hospital Institute will convene at the Hotel Marion, Little Rock, Ark., Oct. 19-22, under the auspices of the American Psychiatric Association Mental Hospital Service. Dr. Winfred Overholser, Washington, D. C., is chief consultant of the service, and Dr. Daniel Blain, Washington, D. C., is director. Dr. Cleve C. Odom, superintendent of the state hospital, Little Rock, and Dr. Harold W. Sterling, manager of the Veterans Administration Hospital, North Little Rock, head the local arrangements committee.

Grants by Lasdon Foundation.—William S. Lasdon, president of the Lasdon Foundation, Inc., Yonkers, N. Y., in an eight months' report of the foundation's philanthropic activities, announces that 26 grants, totaling $178,092.54, were made to universities and medical centers throughout the United States and abroad for research in health and disease. These grants include a special grant of $15,000 to Harvard Medical School, Boston, for further studies in the transplantation of the human kidney, and a grant of $15,856 to Washington University School of Medicine, St. Louis, for research into certain phases of hypertension and other vascular diseases, under the direction of Dr. Henry A. Schroeder, St. Louis.

Award for Paper on Diabetes.—Competition is open for the annual award offered by the American Diabetes Association to medical students and interns for the best paper in the field of diabetes and basic metabolic problems. Candidates may select any subject related to diabetes for a report of original studies, a biographical or historical note, a case report with suitable comment, or a review of the literature. Manuscripts (6-18 pages, typewritten with double spacing) should be submitted by April 1, 1954, to *The Journal of the American Diabetes Association,* 11 W. 42nd St., New York 36. The prize of $250 again is made possible by the generosity of the St. Louis Diabetes Association.

Longevity in Wage Earners.—According to the Metropolitan Life Insurance Company, New York, experience among their industrial policyholders shows that 1952 registered the ninth year of consecutive rise in longevity, the average length of life of America's wage earners and their families reaching a new high of 68.5 years. The gain in average lifetime amounts to 5 years since 1941, 10 years since 1932, and 22 years since 1911-1912. In 1879-1889 the average lifetime was only 34 years, less than half that for 1952. The company reports that, whereas in 1911-1912 the average lifetime for industrial policyholders was about 6½ years less than that for the general population, currently the two are on a par.

Teaching Institutes.—The Association of American Medical Colleges is undertaking a series of teaching institutes; the first, Oct. 19-23 in Atlantic City, will concern itself with physiology, biochemistry, and pharmacology. Each institute is planned to bring together, by invitation, a group of medical educators. The first institute, which will precede the annual meeting of the association, Oct. 26-28, is being financed by the National Heart Institute of the U. S. Public Health Service, the medical schools, and the Association of American Medical Colleges. Future institutes are planned to cover the following areas:

Pathology, microbiology, immunology, and genetics (1954).
Anatomy, histology, embryology, and anthropology (1955).
Medical ecology (1956).
Clinical teaching including the internship (1957).
Specialty training and the continuing education of the physician (1958).

Society News.—The **American Association of Obstetricians, Gynecologists and Abdominal Surgeons** has elected Dr. Herbert E. Schmitz, Chicago, president; Dr. Thaddeus L. Montgomery, Philadelphia, president-elect; Dr. Frederick J. Lynch, Boston, vice-president; Dr. Frank R. Lock, Winston-Salem, N. C., secretary; Dr. E. Stewart Taylor, Denver, assistant secretary; and Dr. Ward F. Seeley, Detroit, treasurer. The next annual meeting of the association will be held at the Homestead, Hot Springs, Va., Sept. 9-11, 1954. Communications should be addressed to Dr. Frank R. Lock, Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, N. C.——At its fall meeting at Harrison Hot Springs in British Columbia, the **North Pacific Society of Internal Medicine** elected Dr. Howard P. Lewis, Portland, president; Dr. Edwin G. Bannick, Seattle, vice-president; Dr. Clarence C. Pearson, Seattle, secretary-treasurer; and Dr. Roger H. Keane, Portland, Ore., a member of the executive committee. In 1954 the spring meeting (March) will be held in Spokane, Wash. and the fall meeting (Sept.) in Victoria, Canada.

Safety Congress in Chicago.—The National Safety Council announces that the 41st National Safety Congress and Exposition will be held in Chicago Oct. 19-23. On Monday, 2:15 p. m. Dr. Kozme F. Kapov, medical director, Armour and Company, Chicago, will serve as leader for the panel discussion, "The Industrial Back—or How to Prevent This Type of Injury and Claim," at the Congress Hotel. Tuesday morning Dr. Vlado A. Getting, professor of public health practice, University of Michigan, Ann Arbor, will preside at a meeting in which reports on community organizations for home safety will be presented at the Conrad Hilton Hotel. Dr. Harry Wain, health officer, City-County Health Department, Mansfield, Ohio, will describe "An Action Program for the Health Department." Wednesday morning at the Conrad Hilton Hotel, there will be a symposium on industrial lighting and seeing in which Dr. Arthur L. Koven, Philadelphia, will present "Which Rays Injure the Eyes," and Dr. Hedwig S. Kuhn, Hammond, Ind., will discuss "Eyes—Facts and Fallacies." Wednesday morning at the Conrad Hilton, Dr. Gerald Gordon, Wilmington, Del., will have as his topic "Safety from the Standpoint of the Psychiatrist," and Dr. Frederick W. Slobe, Chicago, will discuss "Medical Care of Employees." Dr. Jermyn F. McCahan, New York, will discuss "Pre-Employment and Periodic Physical Examinations" at the Hamilton Hotel, and Dr. Maxwell M. Corbett, Chicago, will represent medicine in the panel discussion, "Job Placement Physical Examinations," at the Hamilton Hotel. At 3 p. m. at the Conrad Hilton Hotel, Dr. Ernest W. Miller, Milwaukee, will consider "Why is Electric Shock Serious?" Thursday at the Conrad Hilton, Dr. Richard J. Bennett Jr., Chicago, will open the afternoon session on safety in fabricating and warehousing with a discussion, "Health in Steel Warehousing Operation."

Registration fee for the congress and exposition is $5. Registration and information desks will be located in the Conrad Hilton, Blackstone, Congress, Hamilton, La Salle, Morrison, and Palmer House hotels.

Prevalence of Poliomyelitis.—According to the National Office of Vital Statistics, the following number of reported cases of poliomyelitis occurred in the United States, its territories, and possessions in the weeks ended as indicated:

	Oct. 3, 1953		
Area	Paralytic Type	Total Cases Reported	Oct. 4, 1952 Total
New England States			
Maine	11	19	10
New Hampshire	..	3	2
Vermont	3	7	6
[illegible]	26	42	25
[illegible]	3	18	8
[illegible]	4	20	23
Middle Atlantic States			
New York	58	159	145
New Jersey	18	40	39
Pennsylvania	..	78	120
East North Central States			
Ohio	25	129	195
Indiana	..	26	108
Illinois	32	88	248
Michigan	53	119	252
Wisconsin	..	63	162
West North Central States			
Minnesota	32	109	321
Iowa	9	14	255
Missouri	5	18	81
North Dakota	..	6	20
South Dakota	..	17	49
Nebraska	2	4	115
Kansas	4	23	129
South Atlantic States			
Delaware	..	..	12
Maryland	12	23	26
District of Columbia	..	2	2
Virginia	14	26	25
West Virginia	12	23	42
North Carolina	9	21	15
South Carolina	..	1	13
Georgia	3	7	38
Florida	4	17	24
East South Central States			
Kentucky	1	8	71
Tennessee	1	11	36
Alabama	11	11	11
Mississippi	..	4	20
West South Central States			
Arkansas	3	5	16
Louisiana	2	5	26
Oklahoma	..	8	30
Texas	17	36	83
Mountain States			
Montana	7	17	13
Idaho	..	6	13
Wyoming	1	2	4
Colorado	1	3	49
New Mexico	..	6	22
Arizona	5	9	27
Utah	..	11	37
Nevada	..	2	6
Pacific States			
Washington	..	24	59
Oregon	5	27	30
California	66	152	153
Territories and Possessions			
Alaska	..	..	..
Hawaii	..	..	3
Puerto Rico	3	3	..
Total	462	1,462	3,220

MEETINGS

AMERICAN MEDICAL ASSOCIATION: Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

1953 Clinical Meeting, St. Louis, Dec 1-4.
1954 Annual Meeting, San Francisco, June 21-25.
1954 Clinical Meeting, Miami, Florida, Nov. 30-Dec. 3.
1955 Annual Meeting, Atlantic City, N. J., June 6-10.
1955 Clinical Meeting, Boston, Nov. 29-Dec. 2.

American Academy for Cerebral Palsy, Western Hills Hotel, Fort Worth, Texas, Oct 30-31. Dr. Harry E. Barnett, 116 S. Michigan Blvd., Chicago 3, Secretary.

American Academy of Dermatology and Syphilology, Palmer House, Chicago, Dec. 5-10. Dr. John E. Rauschkolb, P. O. Box 6565, Cleveland 1, Secretary.

American Academy of Tropical Medicine, Brown Hotel, Louisville, Ky., Nov. 12-14. Dr. E. Harold Hinman, University of Puerto Rico, School of Medicine, San Juan 22, P. R., Secretary.

American Association of Blood Banks, LaSalle Hotel, Chicago, Oct. 17-20. Miss Marjorie Saunders, 3500 Gaston Ave., Dallas 4, Texas, Secretary.

American Cancer Society, New York, Nov. 2-6. Dr. Charles S. Cameron, 47 Beaver St., New York 4, Medical Director.

American Clinical and Climatological Association, The Homestead, Hot Springs, Va., Nov. 2-4. Dr. Marshall N. Fulton, 124 Waterman St., Providence 6, R. I., Secretary.

American College of Cardiology, Hotel Statler, Cleveland, Ohio, Nov. 6-7. Dr. Philip Reichert, 480 Park Ave., New York 22, Secretary.

American Public Health Association, Hotel New Yorker and Hotel Statler, New York, Nov. 9-13. Dr. Reginald M. Atwater, 1790 Broadway, New York 19, Executive Secretary.

American School Health Association, Hotel New Yorker, New York, Nov. 9-13. Dr. A. O. DeWeese, 515 East Main St., Kent, Ohio, Secretary.

American Society for the Study of Arteriosclerosis, Hotel Knickerbocker, Chicago, Nov. 1-2. Dr. O. J. Pollak, P. O. Box 228, Dover, Del., Secretary.

American Society of Tropical Medicine and Hygiene, Brown Hotel, Louisville, Ky., Nov. 12-14. Dr. John E. Larsh Jr., University of North Carolina, School of Public Health, Chapel Hill, N. C., Secretary.

Association of American Medical Colleges, Hotel Claridge, Atlantic City, N. J., Oct. 26-28. Dr. Dean F. Smiley, 185 N. Wabash Ave., Chicago 1, Secretary.

Association of Military Surgeons of the United States, Hotel Statler, Washington, D. C., Nov. 8-11. Dr. R. R. Sayers, Armed Forces Institute of Pathology, Washington 25, D. C., Secretary.

Association for Research in Nervous and Mental Diseases, Hotel Roosevelt, New York, Dec. 11-12. Dr. Clarence C. Hare, 710 West 168th St., New York 32, Secretary.

Association of State and Territorial Health Officers, Washington Hotel, Washington, D. C., Nov. 4-7. Dr. John D. Porterfield, 306 Ohio Depts. Bldg., Columbus 15, Ohio, Secretary.

Central Association of Obstetricians and Gynecologists, The Shamrock, Houston, Texas, Nov. 5-7. Dr. Harold L. Gainey, Suite 602, 116 South Michigan Ave., Chicago 3, Secretary.

Conference of Public Health Veterinarians, Hotel New Yorker, New York, Nov. 9. Dr. James Lieberman, U. S. Public Health Service, Washington 25, D. C., Secretary.

Congress of Neurological Surgeons, Roosevelt Hotel, New Orleans, Nov. 12-14. Dr. B. W. Cannon, 1092 Madison Ave., Memphis, Tenn., Secretary.

Constantinian Society, Battery Park Hotel, Asheville, N. C., Oct. 18-21. Dr. C. F. Shook, Medical Director, Owens-Illinois Glass Company, Toledo 1, Ohio, Secretary.

Indiana State Medical Association, French Lick, Oct. 19-21. Mr. James A. Waggener, 23 E. Ohio St., Indianapolis 4, Executive Secretary.

Interstate Post Graduate Medical Association of North America, Palmer House, Chicago, Nov. 2-5. Dr. E. R. Schmidt, 1300 University Ave, Madison 5, Wisconsin, Secretary.

Inter-Society Cytology Council, Philadelphia, Nov. 19-20. Dr. Paul F. Fletcher, 634 North Grand Blvd., St. Louis 3, Secretary.

Midwestern Section of American Federation for Clinical Research, Congress Hotel, Chicago, Oct. 29. Dr. Robert J. Glaser, 600 S. Kingshighway Blvd., St. Louis 10, Secretary.

National Association for Mental Health, Hotel Carter, Cleveland, Oct. 31-Nov. 2. Dr. George S. Stevenson, 1790 Broadway, New York 19, Medical Director.

National Society for Crippled Children and Adults, Palmer House, Chicago, Nov 12-14. Mr. Lawrence J. Linck, 11 South LaSalle St., Chicago 3, Secretary.

New England Obstetrical and Gynecological Society, Hotel Somerset, Boston, Oct. 28. Dr. Carmi R. Alden, 270 Commonwealth Ave., Boston, Secretary.

North Pacific Surgical Association, Victoria, B. C., Nov. 20-21. Dr. John A. Duncan, 509 Olive Way, Seattle, Secretary.

Oklahoma City Clinical Society, Oklahoma City, Oct. 26-29. Miss Alma F. O'Donnell, 512 Medical Arts Bldg., Oklahoma City 2, Executive Secretary.

Omaha Mid-West Clinical Society, Hotel Paxton, Omaha, Oct. 26-30. Miss Irene Rau, 1031 Medical Arts Bldg., Omaha 2, Executive Secretary.

Pacific Northwest Society of Pathologists, Eugene, Oregon, Nov. 6-7. Dr. John L. Whitaker, 315 South K St., Tacoma 3, Wash., Secretary.

Regional Meetings, American College of Physicians:

- Michigan, H. H. Rackham Auditorium, Ann Arbor, Dec. 5. Dr. H. Marvin Pollard, 1313 East Ann St., Ann Arbor, Governor.
- Midwest—Ill., Ind., Iowa, Minn., Wis.—Hotel Schroeder, Milwaukee, Nov. 21. Dr. Francis D. Murphy, 536 West Wisconsin Ave., Milwaukee 3, Chairman.
- New England—Conn., Maine, Mass., N. H., R. I., Vt.—Hartford, Conn., Oct. 28. Dr. John C. Leonard, 80 Seymour St., Hartford 15, Conn., Chairman.
- New Jersey, Trenton, Nov. 4. Dr. Edward C. Klein Jr., 73 Lincoln Park, Newark 2, Governor.
- North Carolina, Chapel Hill, Dec. 3. Dr. Elbert L. Persons, Duke Hospital, Durham, Governor.

Regional Meetings, American Rheumatism Association:

- Ohio and Western Pennsylvania, Mayflower Hotel, Akron, Ohio, Nov. 11. Dr. Roger Q. Davis, 1405 Goodyear Blvd., Akron 5, Ohio, Chairman.

Southern Medical Association, Municipal Auditorium, Atlanta, Ga., Oct. 26-29. Mr. C. P. Loranz, 1020 Empire Bldg., Birmingham 3, Ala., Secretary.

Southern Surgical Association, The Homestead, Hot Springs, Va., Dec. 8-10. Dr. John C. Burch, 2112 West End Ave., Nashville 5, Tenn., Secretary.

Southwestern Medical Association, Pioneer Hotel, Tucson, Ariz., Oct. 29-31. Dr. C. C. Stapp, 800 Montana St., El Paso, Texas, Secretary.

Virginia, Medical Society of, Hotel Roanoke, Roanoke, Oct. 18-21. Mr. Robert I. Howard, 1105 W. Franklin St., Richmond 20, Executive Secretary.

Western Surgical Association, The Drake, Chicago, Dec. 3-5. Dr. Michael Mason, 154 East Erie St., Chicago 11, Secretary.

FOREIGN

Association of Surgeons of Great Britain and Ireland, Leeds, England, May 13-15, 1954. Dr. Henry W. S. Wright, 45 Lincoln's Inn Fields, London W.C.2, England, Honorary Secretary.

British Medical Association, Glasgow, Scotland, July 1-9, 1954. Dr. A. MacRae, B.M.A. House, Tavistock Square, London, W.C.1, England, Secretary.

Canadian Medical Association, Vancouver, B. C., Canada, June 18-22, 1954. Dr. T. C. Routley, 135 St. Clair Ave. W., Toronto 5, Ont., Canada, General Secretary.

Conference of International Union Against Tuberculosis, Madrid, Spain, Sept. 26-Oct. 2, 1954. Secretariat, Escuela de Tisiologia, Ciudad Universitaria, Madrid, Spain.

Congress of International Anesthesia Research Society, Chateau Frontenac, Quebec, Canada, October 26-29. Dr. A. William Friend, 515 Nome Ave., Akron 20, Ohio, Chairman, Program Committee.

Congress of International Association for the Prevention of Blindness, New York, N. Y., U. S. A., Sept. 12-17, 1954. Professor Franceschetti, 2 Avenue Mirmot, Geneva, Switzerland, Secretary-General.

Congress of International Society of Surgery, Paris, France, May 21-22, 1954. Dr. L. Dejardin, 141, rue Belliard, Brussels, Belgium, General Secretary.

International Cancer Congress, Sao Paulo, Brazil, July 23-29, 1954. Prof. A. Prudente, 171 rua Benjamin Constante, Sao Paulo, Brazil, President.

International Conference on Thrombosis and Embolism, Basle, Switzerland, July 15-19, 1954. Dr. W. Merz, Chief Medical Officer, Gynecological Clinic, University of Basle, Basle, Switzerland, Hon. Secretary.

International Congress of Cardiology, Washington, D. C., and Bethesda, Md., U. S. A., Sept. 12-15, 1954. Dr. L. W. Gorham, 44 East 23d St., New York 10, N. Y., U. S. A., Secretary-General.

International Congress of Clinical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Dr. Robert A. Moore, Washington University School of Medicine, St. Louis 10, Missouri, U. S. A., Chairman, Committee on Arrangements.

International Congress on Group Psychotherapy, Toronto, Ont., Canada, Aug. 12-14, 1954. Dr. J. L. Moreno, Room 327, 101 Park Ave., New York 17, N. Y., U. S. A., Director of Organizing Committee.

International Congress of Hematology, Paris, Sept. 6-11, 1954. Dr. Jean Bernard, 86 rue d'Assas, Paris 6^{e}, France, Secretary.

International Congress of Hydroclimatism and Thalassotherapy, Dubrovnik, Yugoslavia, May 8-16, 1954. Prof. C. Plavsic, Zeleni Venac 1, Belgrade, Yugoslavia, Secretary General.

International Congress of Industrial Medicine, Naples, Italy, Sept. 13-19, 1954. Professor Scipione Caccuri, Director, Institute of Industrial Medicine Policlinico, Naples, Italy, Chairman, Organizing Committee.

International Congress of Internal Medicine, Stockholm, Sweden, Sept. 15-18, 1954. Professor Anders Kristenson, Karolinska Sjukhuset, Stockholm 60, Sweden, Secretary-General.

International Congress of International College of Surgeons, Sao Paulo, Brazil, April 26-May 2, 1954. Dr. Max Thorek, 1516 Lake Shore Drive, Chicago, Illinois, U. S. A., Secretary-General.

International Congress on Mental Health, University of Toronto, Toronto, Ontario, Canada, Aug. 14-21, 1954. For information write: Executive Officer, International Congress on Mental Health, 111 St. George St., Toronto, Ontario, Canada.

International Congress of Nutrition, Amsterdam, Netherlands, Sept. 14-18, 1954. For information write: Dr. M. van Eekelen, Centraal Instituut voor Voedingsonderzoek T.N.O., 61 Catharynesingel, Utrecht, Netherlands.

International Congress on Obstetrics and Gynecology, Geneva, Switzerland, July 26-31, 1954. Dr H. de Watteville, Maternité Hôpital Cantonal, Geneva, Switzerland, President.

International Congress of *Ophthalmology*, University of Montreal and McGill University, Montreal, Canada, Sept. 10-11, 1954, and Waldorf-Astoria, New York, N. Y., U. S. A., Sept. 12-17, 1954. Dr. William L. Benedict, 100 First Avenue Building, Rochester, Minnesota, U. S. A., Secretary-General.

International Congress of Orthopedic Surgery and Traumatology, Berne, Switzerland, Aug 30-Sept. 3, 1954. For information write: Professor M. Dubois, Isle-Hospital, Berne, Switzerland.

International Congress of Psychology, Montreal, Canada, June 7-12, 1954. For information write: Prof. H. S. Langfeld, International Union of Scientific Psychology, Eno Hall, Princeton University, Princeton, N J., U. S. A.

International Congress for Psychotherapy, Zurich, Switzerland, July 21-24, 1954. Dr. H. K. Fierz, Theaterstrasse 12, Zurich 1, Switzerland, Secretary General.

International Gerontological Congress, London and Oxford, England, July 12-22, 1954. Prof. R. E. Tunbridge, General Infirmary, Department of Medicine, The University, Leeds, England, President.

International Poliomyelitis Congress, Rome, Italy, Sept. 6-10, 1954. Mr. Stanley E. Henwood, 120 Broadway, New York 5, N. Y., U. S. A., Executive Secretary.

International Society of Blood Transfusion, Paris, France, Sept. 12-19. For information write: Colonel Julliard, Societe Internationale de Transfusion Sanguine, 53 Boulevard Diderot, Paris 12^{e}, France.

International Society for Cell Biology, Leiden, Netherlands, Sept. 2-9, 1954. Professor Peter J. Gaillard, University of Leiden, Leiden, Netherlands, Secretary.

International Society of Geographical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Professor Fred C. Roulet, Hebelstrasse 24, Basle, Switzerland, Secretary-General.

Journees Medicales, Paris, France, April 21-25, 1954. For information write: Secretariat of the Journees, 12, rue Pierre-Geofroix, Colombes (Seine) France.

Latin American Congress of Obstetrics and Gynecology, Buenos Aires, Argentina, Oct. 26-31. For information write: Sociedad Argentina de Obstetricia y Ginecologia, Santa Fee 1171, Buenos Aires, Argentina, S. A.

Latin American Congress of Otorhinolaryngology, Caracas, Venezuela, Feb. 21-25, 1954. Dr. Victorino Marquez Reveron, Centro, Medico, Caracas, Venezuela, Secretary-General.

Pacific Science Congress, Quezon City and Manila, Philippines, Nov. 16-28. Dr. Patrocinio Valenzuela, College of Pharmacy, University of the Philippines, Quezon City, Philippines, Secretary-General.

Pan American Congress of Otorhinolaryngology and Bronchoesophagology, Mexico, D.F., Mexico, Feb. 28-March 4, 1954. Dr. Pedro Hernandez Gonzalo, 8 No. 358, Vedado, Havana, Cuba, General Secretary.

Pan American Medical Association, International Medical Cruise Congress, S. S. Nieuw Amsterdam, Jan. 6-22, 1954. Dr. Joseph J. Eller, 745 Fifth Avenue, New York 22, N. Y., U. S. A., Executive Director.

Persian Gulf Medical Society, Dhahran, Saudi Arabia, Dec. 7-8. Dr. N. J. Conan Jr., Department of Internal Medicine, Arabian American Oil Company, Dhahran, Saudi Arabia, Secretary.

Sectional Meeting, American College of Surgeons, London, England, May 17-19, 1954. Dr. Michael L. Mason, 40 East Erie St., Chicago 11, Ill., U. S. A., Secretary.

South American Congress of Angiology, Sao Paulo, Brazil, July 1954. For information write: Dr. Rubens Carlos Mayall, Rua Senador Vergueiro 73, Rio de Janeiro, Brazil, S. A.

World Congress of International Society for the Welfare of Cripples, The Hague, Netherlands, Sept. 13-17, 1954. For information write: D. C. Schaap, Centrale Vereniging, Apeldoorschweg 51, Arnhem, Netherlands.

World Federation of Occupational Therapists, Edinburgh, Scotland, August 17, 1954.

EXAMINATIONS AND LICENSURE

BOARDS OF MEDICAL EXAMINERS

Alabama: *Examination.* Montgomery, June 22-24, 1954. Sec., Dr. D. G. Gill, 537 Dexter Ave., Montgomery.

Arizona:* *Examination.* Phoenix, Oct. 22-23. *Endorsement.* Phoenix, Oct. 24. Executive Secretary, Mr. Robert Carpenter, 401 Security Bldg., Phoenix.

Arkansas:* *Examination.* Little Rock, Nov. 5-6. Sec., Dr. Joe Verser, Harrisburg.

Colorado:* *Examination.* Denver, Dec. 15-16. Final date for filing application is Nov. 14. Executive *Secretary, Miss* Beulah H. Hudgens, 831 Republic Bldg., Denver 2.

Connecticut:* *Regular. Examination.* New Haven, Nov. 10-11. Reciprocity actions are taken continuously. Secretary to the Board, Dr. Creighton Barker, 160 St. Ronan St., New Haven. *Homeopathic.* Derby, Nov. 10-11. Sec., Dr. Donald A. Davis, 38 Elizabeth St., Derby.

Delaware: Dover, Jan. 12-14, 1954. Sec., Dr. Joseph S. McDaniel, 229 South State St., Dover.

Florida:* *Examination.* Jacksonville, Nov 22-24. Sec., Dr. Homer L. Pearson, 901 N.W. 17th St., Miami 36.

Guam: The Commission on Licensure will meet whenever a candidate appears or submits his credentials. Director of Medical Services, Guam Memorial Hospital, Agana.

Hawaii: Honolulu, Jan. 11-14. *Examination.* Sec., Dr. I. L. Tilden, 1020 Kapiolani St., Honolulu.

Idaho: Boise, Jan. 11-13, 1954. Executive Secretary, *Mr. Armand L.* Bird, 364 Sonna Bldg., Boise.

Iowa:* *Examination.* Des Moines, Dec. 7-9. Sec., Dr. M. A. Royal, 506 Fleming Bldg., Des Moines.

Kansas: Topeka, Dec. 9-10. Sec., Dr. O. W. Davidson, 864 New Brotherhood Bldg., Kansas City.

Kentucky: *Examination.* Louisville, Dec. 7-9. Sec., Dr. Bruce Underwood, 620 S. 3rd St., Louisville.

Maine: Portland, Nov. 12-13. Sec., Dr. Adam P. Leighton, 192 State Street, Portland.

Maryland: *Examination.* Baltimore, Dec. 8-11. Sec., Dr. Lewis P. Gundry, 1215 Cathedral St., Baltimore 1.

Minnesota:* Minneapolis, Oct. 20-22. Sec., Dr. E. M. Jones, 230 Lowry Medical Arts Bldg., St. Paul 2.

Mississippi: *Reciprocity.* Jackson, December. Assistant Secretary, Dr. R. Whitfield, Old Capitol, Jackson 113.

Missouri: Kansas City, Oct. 22-24. Ex. Sec., Mr. John A. Hailey, Box 4, State Capitol Bldg., Jefferson City.

Nebraska:* *Examination.* Omaha, June 1954. Director, Mr. Husted K. Watson, 1009 State Capitol Bldg., Lincoln.

New Jersey: *Examination.* Trenton, Oct. 20-23. Sec., Dr. E. S. Hallinger, 28 W. State St., Trenton.

North Dakota: *Examination.* Grand Forks, Jan. 6-9, 1954. *Reciprocity.* Grand Forks, Jan. 9. Sec., Dr. C, J. Glaspel, Grafton.

Ohio: *Examination.* Columbus, Dec. 17-19. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus 15.

Oklahoma:* *Examination.* Oklahoma City, June 9-10. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

Pennsylvania: *Examination.* Philadelphia, January 1954. Acting Secretary, Mrs. Margaret G. Steiner, Box 911, Harrisburg.

South Dakota:* *Examination.* Sioux Falls, Jan. 19-20, 1954. Reciprocity can be obtained at any time between meetings of board. Executive Secretary, Mr. John C. Foster, 300 First National Bank Bldg., Sioux Falls.

Texas: Fort Worth, Nov. 12-14. Reciprocity applicants must be completed 30 days prior to the meeting date. Sec., Dr. M. H. Crabb, 1714 Medical Arts Bldg., Fort Worth 2.

Utah: *Examination and Reciprocity.* Salt Lake City, Nov. 17. Director, Mr. Frank E. Lees, 314 State Capitol, Salt Lake City 1.

Vermont: *Examination.* Burlington, Feb. 1954. Sec., Dr. F. J. Lawliss, Richford.

Virginia: *Examination.* Richmond, Dec. 3-5. *Reciprocity.* Richmond, Dec. 2. Address: Board of Medical Examiners, 631 First St. S.W., Roanoke.

Virgin Islands: *Examination.* Charlotte Amalie, Nov. 11-12. Sec., Dr. Earle M. Rice, Box 90, St. Thomas.

West Virginia: Charleston, Oct. 19. Sec., Dr. N. H. Dyer, State Office Bldg., Charleston 5.

Wisconsin:* *Reciprocity.* Madison, October 23. *Examination and Reciprocity.* Madison, Jan. 12-14, 1954. Sec., Dr. A. G. Koehler, 46 Washington Blvd., Oshkosh.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Alaska: On application. Juneau or other towns in Territory as decided by Board. *Reciprocity.* On application. Sec., Dr. C. Earl Albrecht, Box 1931, Juneau.

Florida: *Examination.* Gainesville, Nov. 7. Sec., Mr. M. W. Emmel, Box 340, University of Florida, Gainesville.

Oklahoma: *Examination.* Oklahoma City, April 16-17. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

Oregon: *Examination.* Portland, Dec. 5. Sec., Dr. Charles D. Byrne, University of Oregon, Eugene. (Examinations during 1954 will be held in Portland on March 6, June 5, Sept. 11 and Dec. 4.)

South Dakota: *Examination.* Vermillion, Dec. 4-5. Sec., Dr. Gregg M. Evans, 310 E. 15th St., Yankton.

Wisconsin: *Examination.* Milwaukee, Dec. 5. Final date for filing application is Nov. 27. Madison, April 3. Final date for filing application is March 26. Sec., Dr. W. H. Barber, 621 Ransom St., Ripon.

DEATHS

Jegi, Henry A. ⊕ Galesville, Wis.; born in Arcadia, April 16, 1873; College of Physicians and Surgeons of Chicago, 1896; one of the founders in 1904 of the Trempealeau County Medical Society and at various times held all the offices of the organization; for three terms served as councilor of the seventh district of the state medical society and in 1925 was its vice-president; for 20 years a member of the board of directors of the Wisconsin Anti-Tuberculosis Association; at the time of his death was a member of the state senior council of the organization; in 1948 *The Crusader,* official publication of the Wisconsin Anti-Tuberculosis Association, dedicated an issue to him as the "typical family doctor"; for 36 years president of the board of education and for one term president of the village board; a member of the board of directors of the Bank of Galesville; died June 27, aged 80, of coronary insufficiency.

McQuade, Edwin Leonard, Jensen Beach, Fla.; born in St. John, N. B., Canada, Oct. 7, 1902; Dalhousie University Faculty of Medicine, Halifax, N. S., Canada, 1927; formerly instructor of epidemiology at Johns Hopkins University School of Medicine, Baltimore; at one time associate professor of public health, University of Virginia Department of Medicine in Charlottesville; served as health officer of Henrico County, Va., Charlottesville and Albemarle County, Va., and director of the bureau of rural health in the state health department of Virginia; for a short time member of the bureau of epidemiology state department of health of Michigan; died in Martin County Hospital, Stuart, July 21, aged 50, of myocardial infarction.

Highsmith, Emmett Dewitt ⊕ Atlanta, Ga.; Atlanta College of Physicians and Surgeons, 1906; fellow of the American College of Surgeons; formerly on the faculty of Emory University School of Medicine; a marble bust of him, unveiled in 1933, was presented to him by the railway department of the Georgia Power Company, of which he was physician and surgeon for many years; affiliated with Wesley Memorial Hospital, Grady Memorial Hospital, Henrietta Egleston Hospital for Children, Crawford W. Long Memorial Hospital, and the Georgia Baptist Hospital, where he died Aug. 11, aged 83, of arteriosclerosis.

Steiner, Charles Albert ⊕ Bryn Mawr, Pa.; born in Altoona, Pa., June 19, 1910; Temple University School of Medicine, Philadelphia, 1935; clinical assistant professor of surgery at Woman's Medical College of Pennsylvania, Philadelphia; specialist certified by the American Board of Surgery; member of the American Association for the Surgery of Trauma; fellow of the International College of Surgeons and the American College of Surgeons; affiliated with Delaware County Hospital in Drexel Hill and Bryn Mawr Hospital; died in Jefferson Hospital, Philadelphia, Sept. 4, aged 43, of bleeding duodenal ulcer and pulmonary tuberculosis.

Hoshall, Frank Adelbert ⊕ Charleston, S. C.,; born in Franklin, Okla., July 13, 1903; University of Oklahoma School of Medicine, Oklahoma City, 1930; professor of orthopedic surgery at the Medical College of the State of South Carolina; specialist certified by the American Board of Orthopaedic Surgery; member of the Southeastern Surgical Congress and the American Academy of Orthopaedic Surgeons; fellow of the American College of Surgeons; affiliated with Roper Hospital, Baker Memorial Sanatorium, and St. Francis Xavier Infirmary; died in Hot Springs, Va., July 2, aged 49, of coronary occlusion.

Dintenfass, Henry ⊕ Philadelphia; born in 1885; University of Pennsylvania Department of Medicine, Philadelphia, 1905; associate professor of otology at the Medico-Chirurgical College, Graduate School of Medicine, University of Pennsylvania; specialist certified by the American Board of Otolaryngology; member of the American Academy of Ophthalmology and Otolaryngology and the American Laryngological, Rhinological and Otological Society; fellow of the American College of Surgeons; affiliated with the Skin and Cancer Hospital; died Aug. 25, aged 68.

Bowman, Earle Ledbetter ⊕ Lumberton, N. C.; Medical College of Virginia, Richmond, 1914; served as chairman of the school board; for many years chief of staff of Robeson County Memorial Hospital; died July 18, aged 62, of myocardial infarction, following coronary occlusion.

Chaloupka, Arthur James ⊕ Chicago; Northwestern University Medical School, Chicago, 1920; served during World War I; affiliated with the Ravenswood Hospital, where he died Sept. 3, aged 59, of congestive heart failure and aortic stenosis.

Cheifetz, Irving ⊕ New York City; Long Island College Hospital, Brooklyn, 1930; member of the Bronx Tuberculosis and Health Committee and American Trudeau Society; fellow of the American College of Chest Physicians; affiliated with Bronx and Morrisania hospitals and Seton Hospital, where he died July 13, aged 49, of acute coronary occlusion.

Chesner, William Anthony ⊕ Trenton, N. J.; Georgetown University School of Medicine, Washington, D. C., 1931; affiliated with St. Francis Hospital; died Aug. 27, aged 48, of coronary occlusion.

Couric, Edmonson Shorter ⊕ Miami, Fla.; Medical College of Alabama, Mobile, 1913; member of the American Academy of General Practice; for many years on the staff of the Jackson Memorial Hospital; one of the founders of the North Shore Hospital, where he died Aug. 22, aged 62, of acute coronary thrombosis.

Dahl, Gerhard A. ⊕ Mankato, Minn.; the Hahnemann Medical College and Hospital, Chicago, 1897; died in St. Joseph Hospital July 15, aged 81.

Dodson, Ross ⊕ Huntington, W. Va.; University of Louisville (Ky.) Medical Department, 1911; member of the American Psychiatric Association; formerly affiliated with the Veterans Administration; died in Veterans Administration Hospital in Chillicothe, Ohio, July 1, aged 70.

Eaton, Robert Lee, Anna Maria, Fla.; University of Nashville (Tenn.) Medical Department, 1899; died July 4, aged 85, of acute coronary thrombosis.

Eaton, William Oliver, Proctorville, Ohio; Medical College of Ohio, Cincinnati, 1894; died in Lexington, Ky., Aug. 19, aged 83, of cardiovascular collapse.

Falk, Victor Sofus, Madison, Wis.; Rush Medical College, Chicago, 1913; contract surgeon in World War I; captain in the Medical Corps of the Army during World War II; affiliated with Mendota State Hospital; died June 18, aged 64, of lymphosarcoma of the lung.

Farrell, Edgar Atlas Holt ⊕ Haddonfield, N. J.; University of Pennsylvania School of Medicine, Philadelphia, 1929; served during World War II; director of health, Haddonfield schools; died in the Hospital of the University of Pennsylvania in Philadelphia Sept. 3, aged 49, of cerebral hemorrhage.

Fitzpatrick, Charles Mooney ⊕ Salina, Kan.; University Medical College of Kansas City, Mo., 1903; member of the Radiological Society of North America; served during World War I; affiliated with St. John's Hospital, where he died June 26, aged 74, of pulmonary edema and carcinoma of the esophagus with metastases.

Fleming, Albert ⊕ Folkston, Ga.; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1894; died in St. Vincent's Hospital, Jacksonville, Fla., July 7, aged 85.

Flynn, Joseph P., Minneapolis; Rush Medical College, Chicago, 1900; affiliated with St. Mary's Hospital; died Aug. 21, aged 79, of coronary thrombosis.

⊕ Indicates Member of the American Medical Association.

Greulich, Cornelius D., Milwaukee; Milwaukee Medical College, 1908; died May 17, aged 70, of carcinoma of the sigmoid colon with metastasis.

Griffin, Meredith T., Dallas, Texas; St. Louis College of Physicians and Surgeons, 1893; served as county judge of Upton County; died July 30, aged 83, of cerebral hemorrhage.

Grussner, Albert ⊕ Schenectady, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1904; fellow of the American College of Surgeons; affiliated with Benedict Memorial Hospital in Ballston Spa, Ellis, and St. Clare's hospitals; died in Lake George July 10, aged 71, of carcinoma of the intestine.

Hammers, James S., ⊕ Lancaster, Pa.; Medico-Chirurgical College of Philadelphia, 1904; specialist certified by the American Board of Psychiatry and Neurology; member of the American Psychiatric Association; medical director of the Lancaster County Hospital; consultant in psychiatry, Lancaster General Hospital; neuropsychiatrist, St. Joseph's Hospital, where he died Aug. 30, aged 74, of bronchopneumonia and diabetes mellitus.

Hershberger, Lloyd Ralph ⊕ Los Angeles; Northwestern University Medical School, Chicago, 1932; assistant clinical professor of medicine at College of Medical Evangelists; specialist certified by the American Board of Internal Medicine; served during World War II; on the staffs of the Hospital of the Good Samaritan and California Lutheran Hospital; died June 14, aged 47.

Hilliard, Alexander W. ⊕ Chattanooga, Tenn.; University of Nashville Medical Department, 1898; affiliated with Baroness Erlanger Hospital; died July 3, aged 82, of coronary thrombosis.

Hoffmann, Alfred Anthony ⊕ Waterloo, Iowa; John A. Creighton Medical College, Omaha, 1912; past president of the Black Hawk County Medical Society and the Waterloo Medical Association; served during World War I; past president and charter member of the staff of St. Francis Hospital; director of People's Savings Bank; died in Pequot Lake, Minn., Aug. 20, aged 62, of heart disease.

Houston, Hugh, West Fork, Ark.; Birmingham Medical College, 1910; died June 30, aged 80.

Hultkrans, Joel Carl ⊕ Minneapolis; University of Minnesota Medical School, Minneapolis, 1921; member of the American Psychiatric Association and the Central Neuropsychiatric Association; member of the House of Delegates of the American Medical Association in 1948; died in St. Barnabas Hospital July 27, aged 59, of uremia, hypertension, and cerebral thrombosis.

Hunt, Reuben Heywood ⊕ Lieutenant Commander, U. S. Navy, retired, Lafayette, Calif.; Cooper Medical College, San Francisco, 1905; entered the U. S. Navy June 28, 1921; retired July 1, 1942; died Aug. 28, aged 73, of hypertensive cardiovascular disease.

Hunt, Warren Coe, Klamath Falls, Ore.; Starling-Ohio Medical College, Columbus, 1911; fellow of the American College of Surgeons; died Aug. 10, aged 63, of coronary occlusion.

Iwersen, John Christian, Omaha; University of Nebraska College of Medicine, Omaha, 1903; served as assistant professor of pediatrics at Creighton University School of Medicine; affiliated with St. Joseph's, St. Catherine's, and Children's Memorial hospitals; for many years medical director of St. James Orphanage; died Aug. 19, aged 73, of coronary disease.

Karcher, James Franklin ⊕ Mount Lebanon, Pa.; University of Pittsburgh School of Medicine, 1925; formerly on the faculty of his alma mater; member of the American Trudeau Society; for many years medical missionary in China; on the staff of the Southside Hospital; died July 7, aged 59, of coronary thrombosis and cancer of the stomach.

Kaufman, Paul Myron ⊕ Youngstown, Ohio; Rush Medical College, Chicago, 1924; fellow of the American College of Surgeons; served during World War II and received two citations for his work in the Army Medical Corps overseas; fellow of the American College of Surgeons; affiliated with Youngstown Hospital and Mahoning Tuberculosis Sanatorium; died Aug. 23, aged 55, of coronary thrombosis.

Kimmel, Benjamin Bruce, East Cleveland, Ohio; Cleveland Homeopathic Medical College, 1898; formerly on the faculty of his alma mater; fellow of the American College of Surgeons; served overseas during World War I; at different times a member of the staff of Glenville and Huron Road hospitals in Cleveland, both of which he served as president; died in Cleveland Aug. 15, aged 83.

Kortsch, Ferdinand Paul ⊕ Prior Lake, Minn.; University of Colorado School of Medicine, Denver, 1935; member of the American Academy of General Practice; died July 15, aged 49.

Krzysko, Stanley Leon ⊕ Milwaukee; Northwestern University Medical School, Chicago, 1911; formerly secretary of the Medical Society of Milwaukee County; served on the draft board during World War I; member and at one time chief of staff at St. Luke's Hospital, where he died June 26, aged 70, of rupture of aneurysm of abdominal aorta.

Kummel, Max ⊕ Newark, N. J.; Long Island College Hospital, Brooklyn, 1915; also a lawyer; served during World War I; affiliated with Newark Beth Israel Hospital; died in Roseland Aug. 30, aged 63, of coronary thrombosis and arteriosclerosis.

Lacock, Lester Earle, Pittsburgh; Jefferson Medical College of Philadelphia, 1907; medical examiner for 35 years of the Metropolitan Life Insurance Company; staff member of the Allegheny General Hospital; died Aug. 15 aged 70, of coronary insufficiency.

Lally, Francis Henry ⊕ Milford, Mass.; Dartmouth Medical School, Hanover, N. H., 1902; served as school physician; on the staff of the Milford Hospital; died in Harwich Aug. 4, aged 78, of coronary occlusion.

Lawson, David J. ⊕ Mount Vernon, Wash.; University of Oregon Medical School, Portland, 1925; certified by the National Board of Medical Examiners; affiliated with Rowley General Hospital and Skagit General Hospital; died July 25, aged 55, of coronary occlusion.

McCarthy, William Reginald ⊕ St. Paul; Milwaukee Medical College, 1911; past president of Ramsey County Medical Society; fellow of the American College of Surgeons; served as vice-president of the Minnesota State Medical Association; member of the staffs of the Charles T. Miller and St. Luke's hospitals; died in Van Nuys, Calif.; June 22, aged 66, of bronchiogenic carcinoma.

McDonald, Dan Moore ⊕ Akron, Ohio; Starling Medical College, Columbus, 1902; formerly director of medical department of Firestone Tire and Rubber Company; on the staff of the City Hospital; died Aug. 5, aged 78, of cardiovascular disease and cerebral arteriosclerosis.

McGregor, Lorenzo Watson ⊕ St. George, Utah; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1935; fellow of the American College of Surgeons; specialist certified by the American Board of Surgery; affiliated with D. A. McGregor Hospital; died Aug. 26, aged 45, of acute cardiac dilatation.

McQueen, Arthur Frederick, Amherst, Ohio; University of Wooster Medical Department, Cleveland, 1911; served during World War I; for four years on the school board; for many years member of the city council; chosen "Man of the Year" for 1952 by the Amherst Chamber of Commerce; affiliated with St. Joseph's Hospital in Lorain and the Amherst Hospital; died July 18, aged 69, of cerebral hemorrhage.

Marshall, Benjamin Maxwell ⊕ Eureka, Calif.; College of Physicians and Surgeons of San Francisco, 1902; served as chairman of the board of education; affiliated with General Hospital, where he died Aug. 10, aged 77, of arteriosclerosis.

Mitchell, James Henry ⊕ Pittsburg, Texas; University of Louisville (Ky.) Medical Department, 1894; served as county health officer and Selective Service examiner; president of the Pittsburg Medical and Surgical Hospital; died April 3, aged 81, of coronary occlusion.

Moore, Thomas Kenney, Sharon Center, Ohio; Jefferson Medical College of Philadelphia, 1899; past president of the Summit County Medical Society; affiliated with Peoples and Children's hospitals and on the honorary staff of the City Hospital in Akron, where he died Aug. 8, aged 80, of carcinoma of the stomach.

Morris, Zenella Elizabeth Nelson ⊕ Stockport, Iowa; College of Physicians and Surgeons, Keokuk, Iowa, 1894; past president of the Van Buren County Medical Society; died in Keosauqua June 15, aged 89, of cerebral thrombosis.

Munn, Wayne Alonzo ⊕ Janesville, Wis.; Northwestern University Medical School, Chicago, 1906; preceptor, University of Wisconsin, Madison from 1930 to 1952; an Associate Fellow of the American Medical Association; fellow of the American College of Surgeons; past president of the Rock County Medical Society; served during World War I; affiliated with Mercy Hospital, where he was president of the staff; died Aug. 8, aged 71, of coronary thrombosis.

Neel, William Hal ⊕ Bowling Green, Ky.; Vanderbilt University School of Medicine, Nashville, Tenn., 1913; served on the staff of the City Hospital, where he died July 28, aged 63, of duodenal ulcer.

Neff, Charles Otis ⊕ Louisville, Ky.; Southwestern Homeopathic Medical College and Hospital, Louisville, 1905; for two terms president of the Kentucky State Medical Association; served during World War I; died July 20, aged 75.

Newcomb, James H., Richton, Miss.; Atlanta School of Medicine, 1912; past president of the South Mississippi Medical Society; colonel on the staff of Gov. Hugh White at the time of his death; died Aug. 30, aged 70, of a heart attack.

Nicholls, James William ⊕ Helena, Ark.; Chattanooga (Tenn.) Medical College, 1902; served as vice-president of the Phillips County Medical Society; on the staff of the Helena Hospital; died July 7, aged 70, of heart failure.

Nolen, Beverly Toon ⊕ Franklin, Tenn.; Vanderbilt University School of Medicine, Nashville, 1906; served during World War I; formerly health officer; died in St. Thomas Hospital, Nashville, Aug. 7, aged 72, of coronary thrombosis.

Ogden, Leon Gray ⊕ Holley, N. Y.; Albany (N. Y.) Medical College, 1899; past president of the Orleans County Medical Society; formerly county coroner; served as health officer; died in North Bay, Ontario, Canada, Aug. 22, aged 78, of coronary thrombosis.

Ognibene, Frank Anthony ⊕ Fredonia, N. Y.; University of Buffalo School of Medicine, 1914; member of the American Society of Anesthesiologists; affiliated with Brook Memorial Hospital in Dunkirk; died July 28, aged 61, of coronary thrombosis.

Parham, Ben Otis, New Orleans; Tulane University of Louisiana School of Medicine, New Orleans, 1948; resident in neurosurgery at the Ochsner Foundation Hospital, where he died Aug. 22, aged 27.

Perrin, Stuart Henry ⊕ Superior, Wis.; University of Wisconsin Medical School, Madison, 1928; died at Lake Nebagamon May 16, aged 50, of coronary thrombosis.

Peterson, Charles Frederick ⊕ Independence, Wis.; Northwestern University Medical School, Chicago, 1907; in July 1952 the Independence Lions Club held a "Dr. Peterson Day" to mark his long years of service; for 36 years member of the school board; died June 30, aged 82, of chronic myocarditis.

Petzke, Ernest A. ⊕ Hixton, Wis.; Northwestern University Medical School, Chicago, 1896; died July 7, aged 81, of a heart attack.

Phillips, Bruce Gretton, Bay Pines, Fla.; University and Bellevue Hospital Medical College, New York, 1899; died July 11, aged 79, of bronchopneumonia.

Pinkerton, William Alfred ⊕ North Garden, Va.; University of Virginia Department of Medicine, Charlottesville, 1900; died in Charlottesville July 8, aged 76, of congestive heart failure.

Privka, Arkadijs Aleksandrs, St. Paul, Minn.; Latvijas Universitāte Medicinas Fakultate, Riga, 1936; died in Ancker Hospital July 14, aged 46, of carcinoma of the rectosigmoid, following resection.

Putney, Robert Hubbard ⊕ Elm City, N. C.; Medical College of Virginia, Richmond, 1914; died in Park View Hospital in Rocky Mount July 9, aged 63, of pneumonia.

Quinn, Patrick John ⊕ Rochester, N. Y.; Queen's University Faculty of Medicine, Kingston, Ontario, Canada, 1908; on the staff of St. Mary's Hospital; died July 27, aged 70, of carcinoma of the tongue.

Radford, Arthur Franklin, Kansas City, Mo.; Meharry Medical College, Nashville, Tenn., 1914; died in the General Hospital July 8, aged 63.

Ranson, J. Lester, Sr. ⊕ Charlotte, N. C.; North Carolina Medical College, Charlotte, 1911; also a graduate in pharmacy; served as secretary and president of the Mecklenburg County Medical Society; affiliated with Presbyterian Hospital, where he died Aug. 21, aged 69, of coronary thrombosis.

Remington, Alvah Childs ⊕ Rochester, N. Y.; University of Buffalo School of Medicine, 1897; consulting physician at the Rochester State Hospital; affiliated with Monroe County Infirmary and St. Mary's Hospital, where he died Aug. 17, aged 81, of cerebral sclerosis and fracture of humerus due to an accidental fall.

Robertson, Beridge Ruth, Demarest, N. J.; Columbia University College of Physicians and Surgeons, New York, 1941; associate member of the American Medical Association; died Sept. 7, aged 35, of cancer.

Robinson, Shelby Louise Boynton ⊕ Los Angeles; Meharry Medical College, Nashville, Tenn., 1909; died Aug. 18, aged 64, of terminal pneumonia and adenocarcinoma of the breast.

Ross, Emmy Marie Sophie ⊕ St. Louis; Kaiser-Wilhelms-Universität Medizinische Fakultät, Strassburg, 1918; affiliated with Christian Hospital, De Paul Hospital, Missouri Baptist Hospital, and the Deaconess Hospital, where she died July 29, aged 63, of tumor of the brain.

Sancetta, Biagis, Cleveland; Regia Università degli Studi di Palermo Facolta di Medicina e Chirurgia, Italy, 1902; died in the University Hospitals July 13, aged 75.

Savitsky, Nathan ⊕ New York City; University and Bellevue Hospital Medical College, New York City, 1927; specialist certified by the American Board of Psychiatry and Neurology; member of the American Neurological Association, American Psychiatric Association, and the Association for Research in Nervous and Mental Diseases; past president of the Bronx County Neurological Society and the Hebrew Medical Society; affiliated with Lebanon, Morrisania, and Seton hospitals; died in Mount Sinai Hospital Sept. 4, aged 50.

Shelton, Harold Jordan ⊕ Webster Groves, Mo.; St. Louis University School of Medicine, 1934; member of the American Academy of General Practice; fellow of the American College of Surgeons; affiliated with St. Anthony's Hospital, St. Mary's Group of Hospitals, and Alexian Brothers Hospital in St. Louis, where he died July 4, aged 45.

Smith, James Monroe ⊕ Cochran, Ga.; Atlanta School of Medicine, 1911; died in Macon July 31, aged 77, of cerebral hemorrhage and carcinoma of the bladder.

Smythe, Jay Bingham, Holton, Kan.; Hahnemann Medical College of the Kansas City University, Kansas City, 1901; died in Holton Hospital July 13, aged 75, of congestive heart failure.

Sweet, Grover Cleveland, Rocky Hill, Conn.; College of Physicians and Surgeons, Baltimore, 1912; administrator of the State of Connecticut Veterans Home and Hospital, where he died Aug. 15, aged 67, of coronary thrombosis.

Thompson, Noah Howard ⊕ Bedford, Va.; Rush Medical College, Chicago, 1894; member of the Indiana State Medical Association; died June 28, aged 81, of myocardial failure.

Tinder, J. Stanley, Parsons, Kan.; Chicago Physio-Medical Institute, 1898; died June 25, aged 81, of coronary occlusion.

Torpy, Thomas William ⊕ Omaha; John A. Creighton Medical College, 1919; formerly assistant professor of surgery at his alma mater; member of the American Academy of General Practice; affiliated with St. Joseph's Hospital and St. Catherine's Hospital, where he died July 9, aged 60, of bronchogenic carcinoma.

Turner, Henry Cromwell ⊕ West Covina, Calif.; University of Virginia Department of Medicine, Charlottesville, 1927; member of the Idaho State Medical Association; specialist certified by the American Board of Radiology; formerly practiced in Pocatello, Idaho, where he was on the staff of St. Anthony Mercy Hospital and Pocatello General Hospital; died in Covina July 19, aged 54, of coronary occlusion.

Utley, Vernon T., Parkin, Ark.; University of Arkansas School of Medicine, Little Rock, 1905; for many years county health officer; died in Cross County Hospital, Wynne, Aug. 14, aged 78, of heart disease.

Wade, Edward H., Augusta, Ill.; Eclectic Medical Institute, Cincinnati, 1903; died in St. Elizabeth's Hospital, Hannibal, Mo., July 3, aged 76.

Ward, Harry Norbert ⊕ Hamilton, Ohio; University of Cincinnati College of Medicine, 1925; affiliated with Mercy Hospital and Fort Hamilton Hospital, where he died Aug. 22, aged 52, of coronary occlusion.

Webb, Roy, Delray Beach, Fla.; Vanderbilt University School of Medicine, Nashville, Tenn., 1909; died July 18, aged 69, in coma due to hepatic cirrhosis.

Whelan, Edward James ⊕ Savannah, Ga.; Georgetown University School of Medicine, Washington, D. C., 1924; fellow of the American College of Surgeons; served as president and chief of staff of St. Joseph's Hospital; affiliated with Warren A. Candler Hospital and Oglethorpe Sanatorium; died July 10, aged 53, of angina pectoris.

White, Eston Delaney ⊕ Miami, Fla.; University of Tennessee College of Medicine, Memphis, 1941; died July 28, aged 47, of coronary thrombosis.

White, Frank Melvin, Miles, Va.; New York Homeopathic Medical College and Flower Hospital, New York, 1915; died July 30, aged 73, of cerebral embolism.

Williams, Samuel Hanson, Crofton, Ky.; University of Tennessee Medical Department, Nashville, Tenn., 1894; president of the Hopkinsville Milling Company; died in Jennie Stuart Hospital, Hopkinsville, Aug. 18, aged 82, of arteriosclerotic cardiovascular and renal disease.

Winter, Louis Carl ⊕ Wilton Junction, Iowa; State University of Iowa College of Homeopathic Medicine, Iowa City, 1901; died in the Bellevue Hospital, Muscatine, May 10, aged 80, of cerebral thrombosis and arteriosclerosis.

Wollin, Maurice, New York City; Fordham University School of Medicine, New York, 1918; served during World War I; for many years school physician for the city board of education; died July 14, aged 62, of coronary occlusion.

DIED WHILE IN MILITARY SERVICE

Cox, Wesley Cintra ⊕ Col. U. S. Army, retired; born in Brooklyn, April 21, 1891; Columbia University College of Physicians and Surgeons, New York, 1916; subsequently took graduate training at the Army Medical School, Washington, D. C., and Johns Hopkins University, Baltimore; specialist certified by the American Board of Preventive Medicine and Public Health; fellow of the American College of Physicians, American Public Health Association, and the American Geriatrics Association; member of the American Society of Tropical Medicine and Hygiene, Industrial Medical Association, American Association of Industrial Hygienists, and the Association of Military Surgeons of the United States; began his Army career in 1917 when he joined the medical corps reserve as first lieutenant; the following year was commissioned first lieutenant in the regular Army; during his 36 years of service held posts as chief of the laboratory, Camp Jackson, S. C., in 1921, epidemiologist, Fort Dix, N. J., 1921-1922, serologist and chief, laboratory, Eighth Army Area, 1926-1931, chief, laboratory, and medical inspector, Fort Leavenworth, Kan., 1931-1934; was bacteriologist and instructor, 1917-1921, and bacteriologist, serologist, and instructor, 1925-1926 at the Army Medical School, Washington, D. C., and bacteriologist and instructor, Walter Reed General Hospital, 1934-1937; served in the Panama Canal Department as bacteriologist in 1922, leaving in 1925 and returning in 1939 to spend seven more years in the Canal Zone; served as assistant surgeon, headquarters, Caribbean Command, 1946; retired April 30, 1951; awarded the Legion of Merit, the Army Commendation ribbon, and by the President of Panama, the Order of Vasco Nuñez de Balboa, Grade of Commander; was commanding officer of the Army Environmental Health Laboratory at the Army Chemical Center, Edgewood, Md.; died in Richmond, Va., May 22, while serving on active duty, aged 62, of cerebral hemorrhage.

Collins, Leonard James Jr. ⊕ Sherman, Texas; born in Fort Worth, Texas, April 21, 1924; Southwestern Medical School of the University of Texas, Dallas, 1947; interned at the Baylor University Hospital in Dallas; formerly a resident in internal medicine at Grady Memorial Hospital in Atlanta, Ga.; during his active naval career served at the Naval Hospital, Corpus Christi, aboard the USS General M. Randall, and in July of 1951 was released to inactive duty; volunteered for duty, and was ordered into active military service in May, 1952, serving as a lieutenant in the U. S. Naval Reserve; reported to the Naval Hospital, Jacksonville, Fla., on July 15, 1952, and was serving at this hospital at the time of his death June 6, aged 29, of pulmonary edema and cardiac arrest.

Rhamy, Richard Alan, Sidney, Ohio; Indiana University School of Medicine, Indianapolis, 1951; interned at the Cincinnati General Hospital; served a residency at the Veterans Administration Center in Dayton; entered the U. S. Air Force as a first lieutenant April 19, 1953; died in the U. S. Air Force School of Aviation Medicine at Randolph Air Force Base, Texas, July 1, aged 24, of traumatic bilateral pneumothorax with aeroembolism.

Keane, James Patrick ⊕ Fairview Park, Ohio; St. Louis University School of Medicine, 1948; interned at St. John's Hospital in Cleveland, where he served a residency; formerly a fellow in internal medicine at the Cleveland Clinic Hospital; affiliated with Fairview Park Hospital in Cleveland; first lieutenant in the air force at Lockbourne Air Force Base; killed in an airplane accident at North Olmstead, July 30, aged 29.

Lutes, Lester L., ⊕ Major, M.C., U. S. Air Force, Elizabethton, Tenn.; University of Tennessee College of Medicine, Memphis, 1941; interned at the California Hospital in Los Angeles; served as health director of Carter, Unicoi, and Johnston counties; flight surgeon stationed in England; killed in an automobile accident near Cheltenham, England, April 14, aged 46.

Owen, William Hamilton, Detroit, Mich.; Wayne University College of Medicine, Detroit, 1952; interned at the Walter Reed Army Hospital no. 12 in Washington, D. C.; first lieutenant, medical corps, U. S. Army Reserve; died in Ann Arbor, July 27, aged 27, of poliomyelitis.

GOVERNMENT SERVICES

ARMY

General Denit Retires.—Major Gen. Guy B. Denit, former surgeon of the U. S. Army in Europe, retired on Sept. 30 after more than 38 years of active duty. Gen. Denit was assistant surgeon of the 29th Division in Europe during World War I and was chief of the planning division of the Surgeon General's Office from 1928 to 1932. During World War II, he was chief surgeon of the Atlantic Base section in Casablanca and, later, chief surgeon of American forces in the Pacific theater. During 1946 and 1947 he was chief of the plans and operations division of the Surgeon General's Office. He has been chief of medical services for the European Command since 1948. An honor graduate of the Army Medical School and the Medical Field Service School, General Denit also attended the Command and General Staff School and the Army War College. In 1947 the Medical College of Virginia conferred on him the honorary degree of Doctor of Science. He has been awarded the Distinguished Service medal, the Legion of Merit, the Bronze star, the Army Commendation ribbon, and several campaign ribbons.

NAVY

Guest Lecture Series.—The first lecture of the 1953-1954 Guest Lecture Series, under the auspices of the Naval Medical School, Bethesda, Md., was presented Sept. 25 by Dr. Isador S. Ravdin, professor of surgery, University of Pennsylvania Medical School. The lecture was entitled "Some Problems Facing Military Medicine." Dr. Ravdin recently toured medical installations of the armed forces in the Far East. During World War II he saw service in the India-Burma-China theater of operations and advanced to the rank of brigadier general.

OFFICE OF DEFENSE MOBILIZATION

Personal.—Dr. Francis J. Braceland of Hartford, Conn., who was appointed by President Eisenhower to the National Advisory Committee of the Selective Service System, has been appointed by the Director of Defense Mobilization to the Health Resources Advisory Committee. Dr. Braceland's appointment will fill the vacancy on the two committees, the membership of which is identical, created by the resignation of Dr. James C. Sargent, Milwaukee, Wis. Dr. Sargent, who has served on the committees since their inception in 1950, has been appointed a consultant to the two groups.

PUBLIC HEALTH SERVICE

Study of Amyotrophic Lateral Sclerosis.—A major study of amyotrophic lateral sclerosis has just been initiated on Guam. This investigation, in which the Public Health Service, the Navy Bureau of Medicine and Surgery, and the Department of Interior are participating, will be headed by Dr. Leonard T. Kurland, chief epidemiologist of the Public Health Service's National Institute of Neurological Diseases and Blindness, who left for Guam this month. Information now available indicates that this crippling, fatal disease is highly prevalent on Guam.

The chances for determining the possible roles of heredity and environment in the development of amyotrophic lateral sclerosis are especially good on Guam because of the relatively fixed population.

Dr. Donald Mulder, U. S. Navy, and Drs. K. K. Waering and S. Tillema of the government of Guam will cooperate in the present study, which will go on for about two months. The research team will examine several groups of natives in addition to those presently affected with this disease. By investigating the siblings of those affected, they hope to determine why one member of the family has incurred the disorder, and others not. Examination of a random group of natives on Guam may also help isolate the special conditions that may be responsible for the disease. Finally, the research team will study the natives on a neighboring island in order to determine whether the problem is typical of Guam alone or of other areas in the Marianas as well.

VETERANS ADMINISTRATION

New Hospital Dedicated in West Haven.—Dedication ceremonies at the opening of the new 15 million dollar Veterans Administration Hospital in West Haven, Conn., were held Sept. 13. The dedicatory address was delivered by Harvey V. Higley, newly appointed administrator of veterans' affairs, and the response was by Dr. Lewis G. Beardsley, manager of the hospital. Vice-Adm. Joel T. Boone (MC), U. S. Navy (Ret.), chief medical director of the Veterans Administration, spoke on the medical care program. The new hospital is the 47th to be completed under the construction program approved after World War II. It contains 872 beds, of which 396 are allocated to the tuberculosis unit, 332 to general medical and surgical cases, and 144 to the neuropsychiatric unit.

Personal.—Dr. Edwin J. Rose, formerly assistant director of the hospital operations service in the VA central office, Washington, D. C., became manager of the Mount Alto Veterans Hospital, Washington, D. C., Sept. 8, and Dr. Linus A. Zink, formerly manager of Mount Alto Hospital, became acting director of hospitals and clinics in the central office, a new post under the VA's reorganization.

Personal.—Dr. John N. Rich, acting director of the medical division of the New York Regional Veterans Administration office, has been named chief medical officer for the Veterans Administration regional office at Huntington, W. Va., succeeding Dr. Leo F. Steindler, who retired in February, 1953.

MISCELLANEOUS

Scientific Translations Center.—A center for photoduplicating foreign scientific translations has been established by the National Science Foundation in the science division of the Library of Congress. Partial support for the project was contributed by the U. S. Atomic Energy Commission. Establishment of the translations center is part of a foundation program to assist American scientists keep informed about scientific progress in other countries. Scientific translations will be collected from many sources, including government agencies, scientific societies, industrial laboratories, and universities. Initially, the center will put major emphasis on translations from Russian scientific journals, although it is hoped eventually to add material from other languages. Monthly lists of translations newly received will be issued by the Library of Congress. The monthly listings will include notices of translations that are available by direct purchase from commercial and other translating services, but the center will not supply photocopies of such material.

The price list established by the center for copies of translations is as follows: photostats or enlarged microprints, 1 to 10 pages, $1.25 and, 11 to 15 pages, $1.75; microfilms, 1 to 50 pages, $1.00. Inquiries about the new service should be addressed to the Scientific Translations Center, Science Division, Library of Congress, Washington 25, D. C.

FOREIGN LETTERS

BELGIUM

Ethics of Psychiatry and Clinical Psychology.—The Belgian Society of Mental Medicine, with Dr. Raedemaekers, president, presiding at a meeting on March 28, studied problems in ethics in psychiatry and clinical psychology. Professor Nyssen endeavored to define the boundaries between psychiatry and psychology and in so doing studied the principles that should guide collaboration between physicians and psychologists.

Psychology and psychiatry are two mutually supportive sciences, and there is, in fact, no clear-cut frontier between them. The integration of psychology into clinical practice is a fact, but collaboration between physicians and psychologists who are not physicians raises delicate professional questions. The conception of clinical psychology held by various psychiatrists and the scope accorded to it by some of them require a clarification of the respective duties and powers of the supporters of the two sciences. Obviously, when the conclusions derived from examinations carried out according to certain techniques have to be applied in the domain of medicine, the physician alone is competent. The same is true when it is a question of using supplementary measures such as narcoanalysis, suggestions, and various stimuli.

When it is necessary to collaborate in scientific research or to use special techniques to assist in establishing a diagnosis or in understanding a personality, the collaboration of psychologists who are not physicians is often fruitful. It must be remembered, however, that tests have a limited value and that, while the psychological examination may reveal details the physician was unable to detect, it is he who must always have the last word. It is not that psychologists must accept subordination, but that the extent of their collaboration must be defined. In medical clinics, this presents no difficulty. There are, however, psychologists who, though not physicians, make diagnoses and even apply treatment without medical supervision. The author earnestly desires the collaboration of psychologists, but he refuses to give them autonomy in matters connected with the art of healing. This is the attitude generally accepted in the countries of western Europe.

Anthracosilicosis.—At the last session in 1951 of the Flemish Academy of Medicine, Van Mechelen discussed anthracosilicosis in Belgium on the basis of a statistical study of 49,216 workers at work, 500 sick workers, 17,386 workers receiving invalidism pensions, and 100 workers who had died from anthracosilicosis.

He showed that 21.42% of the 49,216 workers at work (which included almost half of all underground workers) were affected by anthracosilicosis. Among these, 13.75% were slightly affected, 5.91% moderately affected, and 1.76% seriously affected. Comparison with neighboring countries shows that the situation is equally serious everywhere.

The extent of the anthracosilicosis is proportional to the number of years of underground work. It is even more closely related to the kind of work performed. Contrary to the traditionally accepted opinion, coal workers are affected earlier and more severely in Belgium than rock workers.

Tuberculosis is rare among the workers at work. Only 0.23% of those examined were found to have active tuberculosis, and only 2.26% had cicatricial tuberculosis. These figures are much lower than the national average. Of 17,386 workers receiving invalidism pensions, 2.6% had pulmonary tuberculosis. Of 500 sick workers suffering from respiratory disease, 8% had progressive pulmonary tuberculosis. The percentage dropped from 11% in the reticular stage to 6% in the stage of anthracosilicotic condensation as a result of systematic exclusion of the tuberculous patients discovered. The sputum of 33 of the 100 workers who died of anthracosilicosis contained tubercle bacilli. Tuberculosis is thus a frequent complication of the final stage of anthracosilicosis, but it does not greatly affect the duration of life.

Technical improvement in mining techniques is the principal weapon in the fight against the pneumoconioses. Statistics extending from 1946 to 1950 show that it is being applied with increasing benefit in the Belgian collieries. The use of certain new engines for the cutting of coal greatly reduces the danger of pneumoconiosis. With total mechanization, human cutters are replaced by equipment that cuts, loads, and transports the coal. Experiments have been undertaken in Belgium by the Institut d'Hygiene des Mines to improve working conditions by the use of aerosols of sodium chloride solution that agglutinate the dangerous fine dusts. In addition, two large collieries are testing use of pneumodilating aerosols administered to workers from the mine depths at the end of their shifts.

Definition of a Physician.—Before the meeting of the Belgian Society of International Medical Law on March 13, 1953, in continuation of a debate on the need for codification of international medical law, Dr. Spaey presented a proposal tending to establish a distinction, in the application of humanitarian conventions, between a doctor of medicine and a physician giving care. This conception aroused the liveliest interest among the members, and at the same time a certain number of objections. These, brought forward especially by the physicians, were based primarily on the principle of the unity of medicine and medical action. Is it desirable, or even possible, to distinguish among medical activities, taken in the broad sense, those that contribute directly and those that contribute indirectly to health? Are preventive medicine and administrative medicine not just as important from the point of view of health as curative medicine, and would it not basically disorganize health service to refuse international protection to the physician who supervises the material installation of an ambulance or the organization of an evacuation line? In any case, the choice of criteria for the distinction would be difficult and their formulation and application would have to be entrusted to professional circles. In concluding the debate, the assembly decided that the distinction proposed by Dr. Spaey deserved a thorough study.

LONDON

Teaching of General Practice.—The report of the undergraduate education committee of the foundation council of the College of General Practitioners (*Brit. M. J.* 2:36 [July 4] 1953) points out that the student who chooses general practice requires instruction in academic medical knowledge, the application of this knowledge outside a hospital, and the doctor-patient relationship. It recalls the days of training by apprenticeship and points out that, while this system may have had its faults, "hospital consultants in those days were in close touch with general practice; many of them had been for a long time in general practice, some were still working as part-time practitioners, others were meeting practitioners frequently in consultation. Even in hospital, students at that time were taught the 'feel' of general practice . . . students now learn the science and principles of medicine without enough emphasis on their application in general practice, so that they remain unaware of the true nature of general practice and of the essential difference between the care of patients in hospital and in home surroundings. . . . The medical student is now taught almost entirely by members of hospital staffs who are specialists and who, to-day, may have had little personal experience of family doctoring; some of them do not even see patients in their homes in consultation with general practitioners. . . . Many medical students qualify to-day,

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The items in these letters are contributed by regular correspondents in the various foreign countries.

without having seen or spoken to a general practitioner. Some students, who might be happiest in general practice and be a powerful influence in raising its standard, deliberately avoid it, being unaware of the opportunities for good and satisfying work which it offers."

A table shows the replies to a questionnaire sent by the College of General Practitioners earlier this year to the deans of the 28 medical schools in Great Britain and Ireland. Only eight of the schools provide lectures on general practice, and two of these schools (Edinburgh and Manchester) have general practice teaching units. Fourteen schools make arrangements for students to work with general practitioners, but in four instances this is an "informal" arrangement; in two instances the length of the course is one day, while in another it is two evenings. The longest course is four weeks, and this is in only one school (Aberdeen). In one school the course concerns only obstetrics.

The committee urges that every medical school should co-opt general practitioners to its staff to teach students "certain important aspects of general practice." Such instruction can be given in a health center or a dispensary run by a medical school, or it can be organized jointly by a medical school and local general practitioners. The best time is probably at the beginning of the final year. Lectures in such a course should be given by men in active general practice, but the committee also "urge most strongly that more students should visit practitioners in their homes, in their surgeries, or on their rounds, and spend a few days with them. . . . This will give young practitioners a yardstick by which to measure all subsequent experience; in later years, either they will be proud of having done better than this first impression or they will know that they still have something to achieve."

Annual Report on Mental Hospitals.—The outstanding feature of the annual report of the Board of Control for 1952 is the persisting shortage of nurses and beds in the mental hospitals. At the end of the year, there were 149,353 patients reported to the board as under mental treatment, compared with 148,071 at the end of 1951. Of this total, 5,096 were private patients, 143,239 National Health Service patients, and 1,018 Broadmoor patients (patients detained under the acts relating to criminal lunatics). The state of overcrowding is indicated by the fact that, in 107 mental hospitals, there were "17,522 more patients than these hospitals were designed, according to prescribed standards, to receive." Of the available beds, 1,640 could not be used owing to shortage of staff. During the year, the number of trained male nurses increased from 9,156 to 9,275, but the number of trained female nurses decreased from 5,819 to 5,699. The report shows a continued decline in the incidence of tuberculosis in mental hospitals. The ratio of 6.1 cases per 1,000 patients is one of the lowest figures attained, and the death rate is now down to 2.1 per 1,000. Tuberculosis as a cause of death represents 3.2% of all deaths in mental hospitals, as compared with 2.5% of all deaths in the general population.

The steadily diminishing number of "licensed houses," privately owned houses or homes in which patients are cared for for payment, is an interesting commentary on the changing practice of medicine. In 1890, there were 31 metropolitan licensed houses and 58 provincial ones. When the National Health Service came into operation, in 1948, the corresponding numbers were 16 and 21; now they are 12 and 15.

Regional Planning of Diabetic Services.—On the recommendation of his Central Health Services Council, the Minister of Health has recommended to hospital authorities the following plan for the setting up of regional centers for the treatment of diabetics. It is considered that the requirements of diabetics can best be met by special regional centers to assist the family doctor and to permit concentration of expert supervision, the most advantageous use of existing medical facilities, and adequate treatment within a reasonable distance of the patient's home.

A regional diabetic service would normally include one or more such centers with facilities for the assessment and stabilization of the patient's condition, care of diabetic emergencies, training of patients with dietetic advice and instruction in use of insulin, and finally facilities for regular outpatient supervision. Such a center would need accommodation for inpatients and outpatients and should be linked with smaller peripheral clinics so situated that patients do not normally have to travel more than 25 to 30 miles for specialist consultation. It is suggested that one bed is needed for every 50 diabetics, to handle those patients who need admission for the initial assessment, stabilization, and training and to deal with relapses, complications, and emergencies. The incidence of diabetes has been estimated at three per thousand of the population of Great Britain. This means that for a population of around 350,000, some 20 beds would be needed to serve the 1,000 diabetics in that area.

The smaller centers need facilities for urine testing and blood sugar estimations. In addition to the medical staff, there should be a sister trained in dietetics and insulin administration, as well as one or more other nurses. The larger centers would provide a full range of ancillary facilities, especially pathological and radiological, with the necessary nursing staff, dietitians, part-time almoner, and chiropodist. The largest centers, probably in teaching hospitals, might have physicians specializing mainly in diabetes, but in most cases the centers will be in charge of a general physician with a special interest in diabetes. He should have had experience at an appropriate center before taking charge. Opportunities for any necessary training should be made available by the responsible hospital authorities to any physician new to this work.

Special arrangements should be made for the treatment of tuberculous, pregnant, and aged diabetics. In any one region, tuberculous diabetics should, wherever practicable, be concentrated in one sanatorium that should be closely linked with a diabetic clinic. Pregnant diabetics should be treated in large maternity units associated with general hospitals where special facilities for diabetics and special experience in the care of pregnant diabetics are available. Pregnant diabetics would be the responsibility of both the obstetrician and the physician concerned with diabetes. Aged diabetics should be able to use a diabetic clinic.

Medical Research Council.—The annual report of the Medical Research Council, which covers the year ended September, 1952, shows that the total expenditure of public funds was £1,587,544 on ordinary account and £137,704 on nonrecurrent account. Benefactions included $63,000 from the Rockefeller Foundation, $25,000 for travelling fellowships in medicine awarded by the council and $38,000 for the purchase of scientific equipment in the United States, and $36,000 from Eli Lilly & Company, $16,000 for travelling fellowships in medicine over a period of three years awarded by the council and $20,000 for the purchase of scientific equipment in the United States over a period of two years. The number of persons employed by the council for its own purposes was 1,427: 441 scientific staff members, of whom 152 are medically qualified, 519 technical, 264 administrative, and 156 full-time and 47 part-time maintenance staff members. This does not include the 50 African personnel employed at the field research station in the Gambia. As agents for the Ministry of Health, the council also employed 920 members of the Public Health Laboratory Service.

Developments referred to include conversion and new building work at the Hampstead laboratories to provide facilities for research on climatic physiology. Work has also been started on a new building at the Christie Hospital, Manchester, to house a betatron, while work is proceeding on the buildings to house the cyclotron and linear accelerator at Hammersmith for the radiotherapeutic research unit. At the end of the year, the organization consisted of the National Institute for Medical Research, 38 research units, 7 less formally constituted research groups, the antibiotics research station, the Laboratory Animals Bureau, and the field research station in Gambia. A new unit founded during the year was that for research on the experimental pathology of the skin. The report also gives details of the council's 68 "principal committees." There are nine separate committees concerned with various aspects of cortisone and corticotropin (ACTH).

Tuberculosis Hostels.—Under the National Health Service Act, county councils and county borough councils are empowered to provide residential hostels and to charge for the services provided to those accommodated. As a result of their experience in London and the neighboring county of Middlesex, W. Hartston and J. F. Macgregor outline a scheme for the organization of such residential hostels for the homeless tuberculous patient (*Tubercle,* 34:180 [July] 1953). The problem is an urban one, especially in large cities with acute housing shortage, and affects mostly men, especially elderly men trying to live on an old age pension or on National Insurance grants. Many have unstable, chronic conditions and divide their time between hospital and lodgings. "Often they are retained in hospital long after all available therapeutic measures have been exhausted and remain in hospital only because they have no homes to which they can be discharged." Hartston and Macgregor "look upon such hostels less as a means of reducing infectivity by segregation of the residents, though it may well act in this way to some extent, but more as a valuable social service providing the homeless ambulant phthisic with cheap good board, lodging and laundry and sympathetic helpful medical supervision." Such a hostel "should operate like a good quality boarding house and not like a nursing home or 'institution'."

While a hostel accommodating 40 or 50 persons is probably the most economical size, it is too large to allow the individual attention that is so desirable, and it is stated that hostels designed for 12 to 25 persons can be run satisfactorily. It is estimated that, in a fairly dense urban area, five hostel beds will be needed for 1,000 tuberculous men. A hostel for 20 men will cover the needs of an urban area of 1,200,000. It will need living accommodation for the resident staff, an office for the warden in charge, an examining room for the visiting physician, bedrooms, two recreation rooms, one or two dining rooms, a kitchen and annexes, three or four bathrooms, seven wash basins, four toilets, a sputum disposal sluice room, storage accommodation, a linen room, and a handicrafts workroom. Most bedrooms should be single; none should have more than four beds. It is considered useful to earmark one of the bedrooms, with two or three beds, as the "sick bay." "An attractive garden of at least half an acre is essential."

A hostel for 20 will need a warden, an assistant warden (these two should preferably be man and wife, with the wife acting as assistant warden who cooks and acts as domestic supervisor), and the equivalent of three full-time domestic assistants. All staff members should be over the age of 30 and should be tuberculin tested. Roentgenograms should be made of all and should be repeated every six months. A local general practitioner should act as hostel physician. Specialist care is provided by the physician of the local regional hospital board chest clinic.

Applications for hostel accommodation will come mainly from hospitals and chest clinics and will "relate to men who are homeless, temporarily or wholly disabled and perhaps at the moment living in common lodging houses. Some of these men will also have temperamental peculiarities which while tolerable in private lodgings would be a menace in a hostel." It is considered that the sifting of such applications should be in the hands of the Medical Officer of Health of the local health authority. The cost of building or converting available premises will vary considerably, but new equipment for 20 residents will cost approximately £2,500, and the average gross cost of maintaining a man will be around £4 10s.

Cancer Education.—This is one of the subjects dealt with in the annual report for 1952 of the Central Health Services Council, the body established under the National Health Service Act to advise the Minister of Health on problems arising out of the working of the service. Its membership is equally divided between physicians and laymen, the latter including persons with experience in hospital management, local government, nursing, pharmacy, and dentistry. The council recognizes that publicity schemes, if carried out with circumspection and in such a way as not to cause fear, must be of value in reducing the delay between the onset of symptoms and consultation of the general practitioner. Its members feel, however, that it is preferable, for the present, for the work on cancer education for the public to be carried out on a local basis by local authorities and voluntary organizations. The best way of handling the problem is not yet "clearly" known. Where there is so much room for experiment, local health authorities and voluntary organizations should be encouraged to devise different schemes. It is considered that "a most important" part of cancer education is education of physicians themselves in early diagnosis; such education on the early recognition of cancer is still deficient. The final recommendation to the Minister of Health is that it is undesirable at the present for any cancer publicity to be distributed by any central government organization direct to the general public. On the other hand, the minister encourages local health authorities and voluntary bodies to carry out exploratory schemes of cancer education to enlarge the knowledge of what can be done in this field. It is also recommended that there should be further facilities for educating physicians and medical students in the early recognition of cancer.

NORWAY

Studies of the Coagulation of Blood.—Last March, at the University of Oslo, Dr. Knut Aas successfully defended his thesis "Investigations of the Coagulation of Blood, with Special Reference to Proconvertin and Convertin." With the help of funds put at his disposal by certain corporations, he worked since the summer of 1950 on experimental investigations of the coagulation of blood at the coagulation laboratory of the medical department A of the Rikshospital. This thesis, which also includes a detailed account of a patient treated in the medical department A and in whom curious features throwing new light on the coagulation of blood were manifest, may be described as an important link in the chain of coagulation studies conducted by the Owren team at the Rikshospital. It will be recalled that Owren's discovery, in 1943, of factor V in the processes of coagulation was followed, in 1947, by his discovery of, what he called at this time, cofactor V. Since then these two factors have come to be known as proaccelerin and proconvertin respectively. In his thesis, Dr. Aas reviews the investigations that since 1943 have been undertaken in connection with the conversion of prothrombin to thrombin, and he explains the working hypotheses from which his own research started. He confirms Owren's hypothesis concerning the nature of proconvertin and convertin, and he suggests that the discrepancy between the results obtained by the one and the two stage methods of prothrombin determination may be explained by recent observations concerning the proconvertin-convertin and the proaccelerin-accelerin systems. The detailed account Aas gives of the technique of the quantitative determination of the clotting factors should prove helpful to workers in other parts of the world.

In a recent appeal to the general public, Owren drew attention to the need for support of organized research in Norway in the faulty coagulation of blood including thrombosis. This group of diseases has, in his opinion, caused more deaths after the age of 50 than any other morbid process. Since 1948, he has developed a cautious system of bishydroxycoumarin (Dicumarol) treatment, aiming at an accurate dosage graduated to avoid the extremes of too timid or too heroic methods. As a result of this work, he no longer gives large doses at intervals of some days; he has determined the exact daily dose of the drug that each patient needs to achieve a normal coagulation level. This dosage is based on exact methods for the estimation of prothrombin and proconvertin. Once the proper dose for each patient has been found, bishydroxycoumarin treatment can be continued indefinitely, with a blood examination only every fortnight or three weeks. Owren's patients are thus enabled to continue treatment after discharge from hospital and need only to send him samples of their blood by mail from time to time. Dr. Owren has worked on these problems since January, 1949, and now has several patients who have received constant bishydroxycoumarin treatment for up to four years. Dr. Owren is encouraged by the results he has achieved, for many of his patients with coronary disease have been enabled to return to work because of this prophylactic treatment.

Standardization of Serologic Tests for Syphilis.—At the Gade Institute in Bergen, the routine serologic testing for syphilis includes Wassermann tests, with three different antigens and three different flocculation tests; Kahn's standard reaction; Meinicke's "Klärung's" reaction, and venereal disease routine laboratory test. The technique of each test differs so in various parts of the world, and even within the boundaries of Scandinavia, that there is at present little hope of a fair comparison of the results of each. Commenting on this situation, Prof. T. Vogelsang of the Gade Institute suggests, in *Nordisk medicin* for July 2, 1953, that it would be possible to adopt international standard methods the employment of which would be obligatory. In 1947, a comparison of the Wassermann test as employed in both Copenhagen and Bergen showed that the sensitivity of this test in Bergen was considerably greater than in Copenhagen. On the other hand, this test seemed to yield a greater number of nonspecific reactions in Bergen. While the Copenhagen antigen contained only 0.26% cholesterol, the corresponding figure for the Bergen antigen was 1%, a figure subsequently reduced to 0.8% with a view to rendering the test more specific although somewhat less sensitive.

Professor Vogelsang's appeal for international standardization in this field is supported by the evidence he presents of the growing importance of testing for syphilis as illustrated by statistics from his own laboratory. In its first year (1912), the Gade Institute dealt with only 102 samples of blood for Wassermann testing. At the outbreak of World War II, the corresponding annual number was between 5,000 and 6,000, and at the present time some 18,000 samples of blood are dealt with yearly. The samples of cerebrospinal fluid have shown a parallel rise, with only 500 to 600 a year before the war as compared with some 1,300 a year at the present time. At one time it was chiefly because of clinically suspected syphilis that samples of blood were sent to the institute, whereas, at the present time, testing for syphilis has become a matter of routine now that serologic tests are compulsory for pregnant women. There are also the would-be emigrants and other groups requiring certificates of freedom from syphilis. A comparison of the figures for the first half of 1939 with the first half of 1952 shows that the percentage of syphilitic serums has fallen, but the actual number of such serums has risen from 646 out of 3,331 in the first period to 881 out of 7,468 in the second period. Professor Vogelsang's description of the change since World War II in the treatment of syphilis as revolutionary is to a great extent a tribute to penicillin as a substitute for arsenic and heavy metals.

Influence of Age, Marriage, and Other Factors on Breast Cancer.—The Norwegian Radium Hospital has dealt for so long with so many cases of cancer that the material now at its disposal is well suited to statistical investigation. Two members of its staff, Selmer Rennaes and Lita Holan, have undertaken a study of the 1,784 women who were treated at this hospital in the period 1932-1944 for cancer of the breast. After the deduction of 236 cases in which information concerning the number of children born to each patient was incomplete, there remained 1,548 patients, approximately half the total number of women suffering from cancer of the breast in Norway in the same period. The breast cancer rate was higher among the unmarried than among the married patients, and between the ages of 50 and 55 the married women showed a fall of the breast cancer rate. For the unmarried women there was a similar fall, but it occurred some 10 years later. Similar observations have been made elsewhere, first in Denmark and later in Switzerland and England. The Norwegian statistics also showed that the breast cancer rate was inversely proportional to the number of children the patients had had. In their comments on this investigation, published in *Nordisk medicin* for July 9, 1953, Rennaes and Holan digress to discuss the action of hormones on experimental animals and human beings. With regard to the latter they point out that the administration of diethylstilbestrol (Stilbofollin) to elderly women may be followed by marked regression of both the primary breast tumor and gland metastases. Also that castration plus testosteronepropionate (Testin) can effect both subjective and objective improvement in young women suffering from breast cancer.

PARIS

Experimental Ethylism.—J. Lhermitte presented before the National Academy of Medicine his work on experimentally produced ethylism. He stressed that it is difficult to evaluate precisely the pathological role of ethylism in human organism. Even when a series of changes in organs are observed at autopsy, it is found that they are not due to poisoning by ethyl alcohol only but often to such other affections as malnutrition, vitamin deficiency, syphilis, and tuberculosis. Experiments performed by various authors have resulted in errors, either because the amount of alcohol introduced was inaccurately estimated or because an alimentary unbalance and a deficiency of ingestion and absorption of vitamins was superimposed on ethylism. In his recent experiments the author succeeded in avoiding these errors. He introduced diluted absinthe by means of a special apparatus, directly into the digestive canal of female rabbits that were being fed an abundant and varied diet. The test lasted from 6 to 8 months, after which autopsy showed that the gastric mucosa had thickened and gave evidence of interstitial gastritis in the prepyloric region. The ulcerations reported by the other authors were never observed. The liver had the appearance of a cardiac liver when the animal died within the first months, but, when poisoning had been present for a longer period, a cirrhosis of the Laennec type occurred, which was identified by the proliferation of portal connective tissue and alterations of portal blood vessels, some of which showed complete thrombosis. A fatty degeneration of the parenchyma was also often observed. A female rabbit subjected to poisoning with ethyl alcohol for over six months had eight stillborn offspring with tegumental dystrophy. Only one of the offspring survived, and autopsy revealed a cirrhosis of the Laennec type. This finding is new and shows that ethylism has an action not only on the liver of the adult but also on that of the fetus. As regards the nervous system, the effect is different on the spinal cord and the cerebellum on the one hand and on the peripheral nerves on the other. In the spinal cord, anterior radicular cells are deeply damaged. In the first stage chromolysis, karyolysis, edema, pus, and complete cytolysis appear; in the last stage the disappearance of protoplasm is complete. At the same time, a reaction of the microglial, perineuronic elements produces images of "neuronophagy." On the other hand, there are no vascular or meningeal lesions. In the cerebellum, lesions restricted to the Purkinje's cells are noted, and there is a form of degeneration similar to that found in the spinal cord, but the constituent elements of the cerebral cortex are undamaged. In contrast to these deep changes, no vascular or inflammatory reaction is noted in the peripheral nervous system.

Labyrinthic Hypotension.—Vertigo due to hypertensive disorders of the labyrinthic fluids is well known. In the *Journal de Médecine de Lyon,* 1952, pp. 821-826, R. Mayoux described a hypotensive origin of this disorder. The syndrome in these cases is generally buzzing, vertigo, and deafness. Hypotensive vertigo is observed especially in young persons in whom arteriosclerosis is precluded; but, in these same patients, labyrinthic hypotension and hypertension may alternate. As to the mechanism of this labyrinthic hypotension, after having observed 21 patients, the author admits the existence of a vasomotor unbalance, inducing a diminution of pressure in the internal auditory artery and, then, a fall of pressure in the vascular stria of the cochlea secreting the endolymphatic fluid. Among 21 patients showing syndromes of labyrinthic hypotension, the author observed 14 subjects in whom the pressure in the central artery of the retina was very low. The author stresses that the internal auditory artery and the central artery of the retina belong to the cerebral circulatory system.

For treatment he recommends the intravenous injection of distilled water. He obtained spectacular and immediate results and, in the rare cases of relapse, further treatment with distilled water brought about complete recovery.

Hereditary Factors in Development of Cancer.—P. F. Denoix, M. P. Schutzenberger, and G. Denoix studied 3,300 case histories gathered in the anticancer centers of France, to determine the influence of heredity on the development of cancer. In each case the site of the cancer as well as the existence of a cancer in the patient's brothers, sisters, parents, and grandparents was noted. In a study published in the *Bulletin de l'Institut National d'Hygiène,* the authors drew certain conclusions from their investigations. There is a familial tendency toward development of cancer in specific sites. There appears to be a certain hereditary predisposition in given groups to cancers of the upper respiratory-digestive tract, uterus, and breasts. The proportion of patients whose parents had cancer was 10 to 15% for all sites; it is notably higher than that of grandparents. Moreover, there is a certain matroclinous tendency in female patients, i. e., the proportion of cancers in the sisters, mothers, and grandmothers of patients is larger than among male members of their families. More maternal grandmothers of cancerous patients than paternal grandmothers also had cancers. The authors intend pursuing their investigations on a larger scale.

Antigenic Variations of Salmonella Typhosa.—A. Jude and P. Nicolle reported initial results of their work on antigenic variations in Salmonella typhosa cultivated at different temperatures to the National Academy of Medicine. After incubation at 37 C Salmonella typhosa is very rich in antigen Vi. Therefore it is well protected against humoral antibodies and phagocytosis. Conversely, at a temperature of 41 C and 18 C the production of antigen Vi is much diminished but the culture is very rich in antigen O, which makes it very toxic for laboratory animals. These experimental studies and clinical observations of typhoid patients led the authors to believe there is a relation between the symptoms of the disease and the modifications of the bacillus in the course of the disease.

Diabetes.—In the March-April issue of the journal *Le Diabète,* Darnaud, Ferret, Denard, Moreau, Voisin, and Commanay reported on 2,000 cases of glucosuria. Four per cent of these patients had renal diabetes, among whom were some who were treated with insulin because their condition was not recognized. A direct cause of diabetes was found in only 2% of the cases, with the commonest associated condition being exophthalmic goiter (Basedouis disease). In 30% of cases there was a familial history of the disease. In 10% of cases the patients were children, and more than 50% of the patients were over 40 to 50 years of age. A characteristic fact has been stressed by the authors: 87% of diabetics under 40 years of age have acidosic diabetes; conversely, the majority of patients over 40 have been obese in the past and are not acidosic. As to complications, polyneuritis occur in 15% of the patients, tuberculosis in less than 2%, and degenerative vascular complications in over 20%. Vascular complications are commoner in long standing diabetes.

Preventoriums for School Children.—At a meeting of the National Academy of Medicine, Fourestier M. David and R. Huguet reported the results of a new experiment with school children. During the winter of 1953, 31 children of a municipal school, from 12 to 13 years of age, were sent with their teachers to a winter station in Savoie at an altitude of 1,400 m., where they lived in a chalet especially equipped for them. During the month one-half of the time was devoted to instruction and the other to sports, with classes in the morning, sports in the afternoon, and a long siesta afterwards.

Remarkable results were noted; from the physical point of view, remarkable improvement occurred and learning productivity increased greatly. The authors believe this new system has a better preventive action and ought to be systematically organized for whole classes in order to benefit children with latent deficiencies as well as those in good health.

CORRESPONDENCE

CORONARY DISEASE AMONG SOLDIERS

To the Editor:—The interesting report by Enos, Holmes, and Beyer (Coronary Disease Among United States Soldiers Killed in Action in Korea, *J. A. M. A.* **152:**1090 [July 18] 1953) calls for comment. On its face value it is very alarming to find that, in 300 autopsies of young soldiers killed in action or in accidents who showed no clinical evidence of coronary disease during life, 77.3% had some gross evidence of coronary arteriosclerosis on postmortem examination. The average age was given as 22.1 years. The authors' statements leave us with the impression that upward of 77% of the youth in our country have coronary disease; this would, of course, be a frightening state. If we look over the few figures presented, however, we find that the ages were apparently obtained in only 200 cases, the youngest being 18 years and the oldest 48 years, with an average of 21.1 years. In 98 cases, the authors state that no age was recorded "except that the oldest was 33 years." If no age was recorded, how can one tell that the oldest was 33 years?

An analysis of the interesting coronary pathology they observed reveals that, in the entire series of 300 cases, no coronary disease was found in about 23% and "fibrous" thickening or streaking of the coronaries with insignificant luminal narrowing occurred in 35%; this makes a total of 58% free, or practically free, from coronary disease. In the remaining cases, 13.3% showed only an estimated 10% and in 6.3% only 20% of luminal narrowing, which would bring up the total number of cases to 78% with no coronary disease, insignificant changes, or comparatively trivial changes. Luminal narrowing in a degree of 30% or more occurred in only about 19% of cases, and in 3% complete occlusion of one or more vessels was observed. Clinically important coronary disease, therefore, occurred only in about 22% of the cases. Inasmuch as the authors did not correlate the various degrees of coronary disease observed with the ages of the patients, we can not tell whether these 22% of cases comprise the younger or older ages. My guess would be that they include mostly the older ages.

It would be of great value if further studies were continued by these authors and other groups who are able to obtain autopsy material in accidental deaths and an attempt were made to correlate the degree of any coronary pathology found with the ages of the patients. Only in that way can we ultimately get a true analysis of the incidence of asymptomatic coronary disease at various ages. There have been to date several recorded series of cases by various authors in the literature correlating age with the degree of coronary disease. That of Yater and co-workers (Comparison of Clinical and Pathologic Aspects of Coronary Artery Disease in Men of Various Age Groups: A Study of 950 Autopsied Cases from the Armed Forces Institute of Pathology, *Ann. Int. Med.* **34:**352, 1951) comprises the largest series. In all these, however, death was attributable to coronary disease not to accidental causes.

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RECEPTION OF PATIENT

To the Editor:—I wonder if we always "see ourselves as others see us." I am a physician in Ohio. I recently received the following letter from my daughter in a distant city.

"This A. M. at 8:30 I kept an appointment made two weeks ago with an 'eye-doctor.' Had to wait 45 minutes, endure his off hand examination made while talking animatedly with his nurse about golf arrangements or something and paid him ten dollars when he finished deciding my eyes are all right and my headache 'emotional,' probably. It certainly can't be difficult for a doctor to assume an attitude of concern—that is what creates confidence."

Name withheld on request.

BUREAU OF INVESTIGATION

JACOB S. SCHIRMER

Investigation Report of Arkansas Attorney General

The Honorable Tom Gentry, Attorney General for the State of Arkansas, has filed a complaint in the circuit court of Clay County, Ark., wherein Jacob Sass Schirmer of Corning is named defendant. The attorney general demands that Schirmer show by what legal right he is exercising the franchise and privilege of the practice of medicine in Arkansas and prays the court to enter a judgment preventing and forbidding Schirmer from practicing medicine.

Attached to the complaint is the report of an investigation of Schirmer's present and past activities. Schirmer has been in the forefront of the promotion of the Koch "Glyoxylide." He was the first president of a group calling itself the "American Association of Physicians," which published at intervals a journal devoted to the promotion of the Koch nostrums among physicians and cultists who use the material. More recently he has been a "Research Associate" in the Lincoln treatment.

The Journal publishes, in its entirety, the report of the special assistant attorney general who was appointed to investigate Schirmer's license and his so-called practice. This is done to enable its readers to learn what is behind a medical quack. It is hoped that this report will serve as a guide to those in medicine who have to do with the licensing and qualifications of doctors and as an example of the painstaking thoroughness required of those whose duty it is to expose quacks.

It may be observed by some that this is a unique situation. Nonetheless, there are persons who pose as doctors of medicine who are neither legally nor morally entitled to administer to the needs of the communities in which they practice or to the gullible public generally which responds to their advertising and their promotional activities. The investigational report on which the complaint was based follows.

"I submit here the report of the investigation of Jacob Sass Schirmer of Corning, Arkansas. No doubt a word of explanation as to the length of the report and as to the wide scope of the investigation is appropriate. The complicated and complex method used by the subject in reaching his objective, a license to practice eclectic medicine in the State of Arkansas, necessitated a complete review of his activities over a period of nearly twenty years. During this time he pursued this objective from Georgia to Missouri to Arkansas to Connecticut, back to Arkansas then to Georgia again, and from there to Indiana and then back to Arkansas. It is incredible that Schirmer could have obtained a license to practice medicine in the manner he did and then could continue to practice in the manner he has for the length of time which has elapsed without the fact that he originally obtained that license by deceit being brought to light. It is also incredible that there would be allowed to exist in the enlightened state of Arkansas an institution operated such as Schirmer's so-called research hospital. Of this hospital the State Special Investigator reported, 'The hospital does not treat any local patients; even though it might be an emergency case they would not accept them. No local doctors practice in this hospital. The turn-over of doctors practicing in the hospital seems to be quite large. A doctor may work in this hospital from two weeks to six months and then be gone. They seldom leave a forwarding address for mail at the post office. They do not mix and mingle with the citizens of the town socially, do not attend their churches, and I was told by two or three citizens that the hospital specializes in the treatment of cancer, tuberculosis and leukemia; that apparently the same treatment is given in all cases, that being some kind of an inhalant which is breathed through the nose. I understand these treatments are quite expensive, sometimes as much as $400.00 per week for a patient, and that the hospital does not accept checks; that in various instances the patient or some of his family goes to the local bank and draws checks on their respective bank back at their home in order to pay the hospital cash. Some of the people I talked to said the hospital is operated very strangely and that the people of Corning don't know what is going on, as very few of them have ever visited in the hospital.'

"A possible explanation of the failure of the responsible citizenry of Arkansas to act against Schirmer is that since 1934 he has held what appears upon the surface to be a valid license to practice eclectic medicine. Only a thorough and painstaking search of the records of several states brought to light positive evidence that he was not entitled to this license and had obtained it after years of cunning maneuvering and in an extremely ingenious manner. May I observe in passing that ordinarily when an individual has been allowed to practice as long as Schirmer, even though he does not possess the necessary qualifications for a medical license, there is a natural disinclination to disturb him in his later years. This is not true, however, when that individual, given a feeling of security by the passage of time, embarks upon a career or a course of action which endangers the public welfare and becomes a menace to mankind. I find that Schirmer is considered by responsible authorities as one of the most notorious cancer-cure quacks of the day. He has reaped and is reaping a harvest of dollars at the expense of those poor and unfortunate persons who are afflicted with incurable diseases and who will turn to anyone who will raise false hopes in them for a fee, the size of the fee is immaterial when life itself is sought to be prolonged. Any so-called doctor who decides to assume this position is entitled to expect that both his professional qualifications and his moral character will be carefully scrutinized by those public officials to whom the duty of protecting the public has been entrusted. He should be willing to disclose his life's history and activities so that the public itself may judge whether he is honest and sincere. Those who cry 'persecution' and who seek to draw some religious curtain between them and the cold light of public scrutiny are but revealing their inability to stand examination.

"In order to understand and to appreciate the reasons for Schirmer's many movements and circuitous action, it is essential that one keep in mind the requirement of the Arkansas statutes that the applicant for a medical license be a graduate of a 'reputable medical school' and that it was some few years after the enactment of this statute that the Arkansas Supreme Court interpreted that provision to mean a school which had a four-year course of study and a curriculum as good as or equal to the better class of medical schools in the United States. A number of licenses were issued between the date of the adoption of that law and the Supreme Court opinion which were based upon diplomas from so-called medical schools which were schools in name only.

"How such a situation could arise is an interesting historical story. At the turn of the century medical men had been divided in opinion as to whether allopathic or eclectic medicine was to be preferred. Eclectic colleges of medicine were just as reputable and prominent as allopathic colleges. There were undoubtedly good methods in both theories and it was inevitable that sooner or later the good in both would be combined into one theory of medicine. Since both had equal standards, states enacted laws giving each equal privileges and standing. Arkansas' 1903 Medical Act created separate licensing boards but provided that the same laws should apply to both. As I have said previously, it was inevitable that the two theories would eventually merge or that one would take over the other. In the early 1900's the eclectic colleges began moving in with the allopathic colleges. This movement left a peculiar situation in some states. Here were laws permitting eclectic boards to issue perfectly valid licenses to practice medicine, and nobody to take advantage of them. It didn't take long for some enterprising and unscrupulous individuals to cash in on the market before the states could adopt legislation to plug the holes left in their medical licensing laws. Under most state laws, if an individual had a diploma from an eclectic medical college, he was eligible for a medical license. Quickly abandoned and dormant eclectic schools were reopened under private ownership. Thus for a brief period flourished the diploma mill. All that was necessary was to pay the tuition fee; a diploma was forthcoming.

"But it was essential that there be a companion-in-arms with these mills. Eclectic Licensing Boards must be found who would cooperate in the fraud on the public. In a few states unscrupulous men seized control of eclectic licensing boards. Licenses were sold 'en masse' and so-called 'graduates' from the diploma mills flocked to these states for licenses. Thousands were ushered into the practice of medicine without qualification. A national scandal was in the making. The reputable eclectic physicians and colleges were helpless. (Reciprocity is a necessity in professional fields.) The reputable could not afford to abolish reciprocity, nor were they able to stem the tide of fraud, deceit and graft in their field, and as a consequence many fine, qualified eclectic physicians have been forced to suffer the embarrassment and shame of having quacks and charlatans hold themselves out as true eclectic physicians.

"The American Medical Association, in an effort to keep up with the swelling tide of physicians, set up a record bureau and published a listing of all physicians, whether allopathic, eclectic, homeopathic, etc. This became the only official record of all physicians, and listing was considered a necessity even by the quacks. There was no charge for the listing; all boards regularly reported the names of those to whom licenses had been granted and those who failed examinations. Regularly data cards were sent to all physicians listed, and an up-to-date record was sought to be kept on all. No effort was made to grade the physician or to credit or discredit him. The statements made by him were accepted as true and entered upon the card.

"One of the most prominent and enterprising gentlemen to reap the golden harvest of the diploma mill was Date R. Alexander, who operated the notorious Kansas City diploma mill and was eventually convicted and sentenced to the federal penitentiary in connection with his fraudulent issuance and sale of medical diplomas from his Kansas City College of Medicine and Surgery. For a while his 'college' was the mecca for the person who wanted to be a doctor but who didn't have the time or energy to prepare himself through attendance at a reputable medical college. Working with Alexander were several state eclectic licensing boards, the most notorious being that of Connecticut. Also working with him was the then Secretary of the Arkansas board, Dr. C. E. Laws, who was later convicted and sentenced to the federal penitentiary along with Alexander. It does not appear that the remainder of the Arkansas board was in on the deal with Alexander and Laws, but possibly should be charged with considerable negligence and inattention to duty, as will be subsequently seen. Alexander had a protege who was a product of this maelstrom of the golden age of quackery. His name was Jacob Sass Schirmer, whom it took twenty years to obtain a license by the use of his wits, and who was destined to become a protege of the infamous Koch and now the leading exponent of the Lincoln inhalant cancer and leukemia cure.

"Schirmer was born in Charleston, S. C., but the exact date seems to be questionable. He claimed to have been born in 1884 on his data card furnished the A. M. A. in 1922. In his application to the Connecticut Licensing Board in 1920 he gave his birth date as 1888, and later, in 1948, he gave his birth date as 1892 on a subsequent data card sent him by the A. M. A. It is somewhat amusing to examine the records of the A. M. A. on Schirmer. He gave such conflicting data on his various reports to the A. M. A. and to the other bodies to whom he furnished a history that the record section had three separate and distinct personnel cards on him. He claimed to have graduated from high school at Ashland High School, Ashland, Mass., in 1903. (I have in my possession a certificate from the Superintendent of Schools of Ashland, Mass., that a search of the records of that school from 1897 through 1908 failed to reveal the name of Jacob Sass Schirmer or Jacob S. Schirmer.) He became a motion picture machine operator at Atlanta, Georgia, where his father was a chiropractor specializing in treatment of chronic nervous diseases. He claims to have attended the Georgia College of Eclectic Medicine and Surgery from 1908 until 1913, but this claim is not substantiated by the records of the college. I have examined the lists of students published by that school for the periods mentioned, and his name does not appear for any of the years claimed. (It is also reasonable to assume that were this claim true, it would have been unnecessary for him to go through all the later maneuvering he performed to get a license in Arkansas.) I have also interviewed persons who knew him at Atlanta during this period who have stated to me that he was a motion picture machine operator and made no claim to being a physician.

"He now claims to have had a residency in the private hospital of one Dr. W. B. Lingo, a notorious cancer-cure quack of that age. Lingo was also 'dean' of the Southern School of Medicine and Surgery at Atlanta. The Atlanta *Banner* on Oct. 13, 1916, carried a full story of the investigation by the Georgia Board of Medical Examiners of the fraudulent issuance of diplomas by Dr. Lingo's college and the fraudulent issuance of eclectic medical licenses by one Dr. C. W. Miller, who was secretary of the Eclectic Licensing Board. It is interesting to observe that the legislature of Georgia abolished the Georgia Eclectic Licensing Board in July of 1913. Thereafter a number of licenses signed by Miller and dated May and June 1913 appeared in Georgia. The news article in the *Banner* reports parts of this investigation in this manner: 'Dr. W. B. Lingo was dean of the college. It developed that the board might prosecute Dr. Lingo on charges of perjury. It was alleged that he had attended a medical college in Baltimore, had gone to Nevada and obtained a license under the law which required only registration and then returned to Georgia and had been given a reciprocal license. The testimony relating to Drs. Tallent and Goodson was that they had attended the Georgia College of Eclectic Medicine and Surgery in the spring of 1916. They recorded licenses dated June 1913. It was brought out that Dr. C. W. Miller, a member of the eclectic board the latter part of September and October 1913, two months after the board had been abolished by the legislature, issued 28 to 30 licenses. Dr. Nolan, secretary, asserted that there is someone in the state making a practice of issuing these licenses and dating them back. The licenses held by several doctors which were revoked Thursday are alleged to have been dated back.'

"This above story is pertinent to the present investigation because in 1917 Schirmer filed a purported Georgia eclectic medical license at Savannah, Chatham County, Georgia, which is some considerable distance from Atlanta where he was living. This purported license is of interest in that it is dated May 3, 1913, and is signed by C. W. Miller. There is no record of Schirmer ever having lived in Savannah, and the license was never recorded at Atlanta, where Schirmer lived. I have in my possession affidavits from the secretaries of the Georgia State Medical Boards that Schimer was never issued any license to practice medicine by any Georgia board, according to the records of the boards. No report of the issuance of such a license was ever made to the A. M. A. record section, nor was any report ever made that Schirmer had applied for or had taken an examination for a Georgia license. Apparently this license was too hot for even Schirmer to handle, because he has never used it as a basis for reciprocal license claims. (His later actions demonstrate that he had no confidence in this so-called license.)

"About March 1917 Schirmer's name appears on the list of applicants for matriculation to the College of Physicians and Surgeons at Boston, Massachusetts. This college published quarterly a list of the applicants for matriculation and a list of the students in attendance. Schirmer's name appears first in the Quarterly Vol. 38, #2, which is for the spring of 1917. He does not appear in any of the subsequent quarterly listings until a year later, in Quarterly Vol. 39, #2, which is for the spring of 1918. Again he does not appear in any of the subsequent quarterly listings until Quarterly Vol. 41, #3, which was for June 1919, when he was again listed as an applicant for matriculation. Why he never followed through on his application is probably explained by the language in the report of the Hartford, Connecticut, Grand Jury of 1924, which states in part: 'The Grand Jury caused an investigation to be made of the College of Physicians and Surgeons of Boston; the Dean gave information freely, stating most emphatically that the institution was *not* an eclectic institution and never had been, and the Grand Jury finds as a fact that such is the case.'

"Schirmer next appears in Kansas City, Missouri, during the early part of 1920, where he was attending the Kansas City College of Medicine and Surgery, operated by the notorious Dr. Alexander. Schirmer now claims to have attended this so-called college for a 'post-graduate' course in medicine, but, as will be seen, during his later attempts to obtain a license from various eclectic boards, he listed himself as a graduate of the Kansas City College of Medicine and Surgery, that is, until that school was shown to have been pure vehicle for fraud by Dr. Alexander.

"On May 11, 1920, Schirmer came to Arkansas and made application for license to the Arkansas Eclectic Medical Board. He took the examination and failed, receiving a grade of 57 6/12 per cent. I have in my possession a photostatic copy of the minutes of the Arkansas Electic Medical Board of that day, in the handwriting of the secretary, showing Schirmer's failure and also the official report of 'Examination for License to Practice Medicine' furnished the Council on Medical Education of the American Medical Association by the secretary of the Arkansas Eclectic Medical Board, showing that Jacob S. Schirmer failed the examination for license on May 11 and 12, 1920.

"Schirmer immediately followed the mass movement to Connecticut, and on July 13, 1920, allegedly took an examination before the Connecticut Board of Eclectic Examiners. His good moral character and professional standing being vouched for by Dr. Date R. Alexander, Schirmer listed himself in his application before this board, of which I have a photostatic copy, as being a graduate of the Kansas City College of Medicine and Surgery. Thereafter, having obtained a license from a state with which Arkansas had a reciprocal agreement, Schirmer returned to Arkansas, and on May 11, 1921, received a license from Arkansas, by reciprocity with Connecticut. The granting of this reciprocal license was duly reported on the regular forms by the secretary of the Arkansas Eclectic Medical Board immediately thereafter. I have a certified copy of this report, signed by the secretary and in the handwriting of the secretary.

"Schirmer then moved to Urbanette, Arkansas. In due time the secretary of the Connecticut Board reported to the Council on Medical Education that Jacob S. Schirmer of Urbanette, Arkansas, a graduate of the Kansas City College of Medicine and Surgery, had been granted a license to practice medicine by the Connecticut Eclectic Board of Medical Examiners. Notation was accordingly made on the personal data card of Schirmer by the A. M. A.

"Schirmer practiced in Urbanette, having filed his license for record with the County Clerk of Carroll County, as required by the statutes of Arkansas (Act 22 of 1903). This seems to be the fatal error committed by Schirmer in his entire plan of campaign, since the license is still on record and shows plainly that it was issued by reciprocity with Connecticut on May 11, 1921. I have in my possession a certified copy of this license, showing that it was granted upon reciprocity with Connecticut.

"On the first Tuesday of March 1924, the Grand Jury in the County of Hartford, State of Connecticut, filed a report which was due to electrify the medical profession of the United States and which was to cause a radical decrease in the diploma mills of this country. Connecticut apparently had tired of being the happy hunting grounds for all those who could obtain a diploma from diploma mills. The report of the Connecticut Grand Jury reflects that a wide and extensive investigation was made of a number of so-called eclectic 'colleges,' among which was the Kansas City College of Medicine and Surgery. The following is a direct quotation from the report of the Grand Jury of the investigation of this so-called college:

" 'The Grand Jury made inquiry as to the equipment, teaching staff and curriculum of the Kansas City College of Medicine and Surgery. We, the Grand Jury, find that many persons have been admitted to examinations held by the Connecticut Board of Eclectic Examiners by virtue of possession of diplomas from the Kansas City College of Medicine and Surgery, and hold licenses to practice medicine in Connecticut based upon examination by certificate of that Board.

" 'The paid teaching staff consists of two men who receive $100.00 a month. The school is owned and operated by Dr. Alexander. There has not been a meeting of the faculty since 1915. There are no persons connected with this college who have any knowledge of educational qualifications or the administering of an educational institution from the standpoint of efficiency. The conditions existing in this college are almost unbelievable. The man who was introduced as the teacher of anatomy is not a doctor. The head of the school said he was enrolled as a student but the records of the school did not bear out this statement. The classes are taught together; there is no attempt to verify the credentials presented by applicants for admission to the college and the entrance requirements are practically nil. The head of the school stated that if a student claims to have passed certain courses of study, he accepts his statement, as it makes no difference to him. Anyone is welcome, and anyone who has the cash to pay is sure to go away with a diploma. Diplomas are issued to applicants at a charge of approximately $200.00 each, and these diplomas are issued for the purpose of giving the holder thereof the opportunity to appear before Eclectic Examining Boards in some states, but principally Connecticut. The dishonorable traffic in diplomas to be used for this purpose was freely admitted by the head of the school, coupled with the statement that hereafter the price would be higher. It was impossible to obtain a medical education in this college—and students knew it and the diplomas were sought and obtained for the purpose of practicing fraud upon the authorities in the State of Connecticut. The persons receiving a license from the State of Connecticut founded upon a Certificate issued by the Eclectic Board as a result of examinations of such persons, as a graduate of this school, were issued because of the fraud and deceit practiced upon authorities in Connecticut.

" 'We, the Grand Jury, find that there was some question at one time as to the St. Louis College of Physicians and Surgeons and that persons went from that college, and from elsewhere, to the Kansas City College of Medicine and Surgery and came away in less than an hour with a diploma from the latter college. So-called doctors examined by the Grand Jury admitted that they never attended courses of study at the Kansas City College of Medicine and Surgery, had spent less than an hour at that institution, and had paid from fifty to three hundred dollars for the diplomas received.

" 'There is a respectable and apparently responsible National Eclectic Association, the officers of which protested to the Connecticut Eclectic Society and warned against examining persons holding diplomas from the colleges above named, characterizing them as frauds and "bastard institutions." Yet, notwithstanding this warning, and the knowledge which the warning would have conveyed to honest, intelligent persons, the Connecticut Eclectic Society, composed in the main of graduates from these fraudulent institutions, voted to place them upon the list of colleges whose graduates would be accepted by the Connecticut Board of Eclectic Examiners for examination.'

"Before the issuance of the report of the Connecticut Grand Jury on February 16, 1924, it had obviously been turned over to the Commissioner of Health of Connecticut, and there had been a considerable upheaval in that state. A new Eclectic Medical Examining Board was appointed and a review made of all licenses which had been granted by the old board. On February 1, 1924, Schirmer was advised by the Commissioner of Health of Connecticut that his Connecticut license had been revoked by the Connecticut Eclectic Medical Examining Board for fraud and deceit as of January 31, 1924. Thus, the roof caved in on Schirmer. His Arkansas license, duly recorded where he was practicing, showed that it was based on reciprocity with Connecticut. His Connecticut license had been revoked for fraud and deceit.

"On February 17, 1924, the newspapers of this area carried the story of the Connecticut investigation and action. The *Arkansas Gazette*, in its Sunday, February 17, 1924 issue, on page 8, carried the story as it pertained to Schirmer. This newspaper pointed out the effect on Schirmer's Arkansas license of the action of the Connecticut Grand Jury and the Connecticut State Board of Health. Schirmer immediately fled from the state. On February 21, 1924, Schirmer addressed a letter to the Commissioner of Health of Connecticut, stating that he wanted to be furnished proof of his fraud and deceit. He begins his letter by saying: 'Your letter under date of February 1 just received.' This letter of Schirmer's is written on stationery of Dr. J. F. Schirmer, 'Chronic Nervous Diseases a Specialty,' Silvey Building, Atlanta, Georgia. It purports to have been written from Urbanette, Arkansas, but it is obvious that if Schirmer had been in Urbanette he would have used his own stationery.

"Schirmer returned to Atlanta, Georgia, and on April 23, 1924, was indicted in Fulton County in Indictment #22104 for practicing medicine without a license. There was no trial, dismissal or conviction of this indictment, but we find that Schirmer went back to operating a motion picture machine. He lived in Atlanta, at 29 East Lake Terrace, making his living as a motion picture machine operator, and, I am informed, manufacturing and selling 'stink bombs' in a laboratory he had in his home. Apparently he ran into difficulty with the owner of the Palace Theater. He employed a man named W. F. Moss to throw a 'stink bomb' in the Palace Theater in August of 1925. On August 16, 1925, the Atlanta *Constitution* carried an article referring to this incident which stated that a panic was created at the motion picture theater, where approximately 400 women and children were sitting in the theater. Schirmer posted a $200.00 bond and disappeared. The police judge, after hearing the testimony, summoned the Chief of Police 'and asked him to use the greatest effort to apprehend Dr. Schirmer and to place his bond at not less than $1,000.00. Chief Jett informed the Court that such orders had already been issued and stated that he would accept no less than $5,000.00.' On August 21, 1925, the Grand Jury of Fulton County, Georgia, indicted Schirmer, one W. F. Moss and one Owen Montgomery in Indictment #24687 for the above action. At the same time Schirmer was indicted in #24686 for making his getaway in a Ford sedan automobile with a license that had been issued for another automobile, to-wit: Hudson coupe. I have in my possession certified copies of all three indictments above set out.

"Schirmer fled from Atlanta, drifting over the country following his trade as a motion picture operator. In 1930 he was living in Whiting, Indiana, and was business agent of Moving Picture Operators Local #133. He appears on the records as one of the officers of the International Alliance Theatrical Stage Employes and Moving Picture Operators as J. S. Schirmer, Business Agent, and was on the Executive Board. I am informed that prior to this time he lived at Oak Park, Illinois, under the name of McCabe, until the heat had subsided.

"In my investigation of Schirmer during his period of residence at Indiana, I was told a most fantastic story which, when checked, proved to be authentic. Schirmer's wife at that time, Marjorie, divorced him and was awarded custody of their small son. Schirmer lived at Hammond, Indiana, and his wife lived at Whiting, Indiana, which is just across the highway. Both of these places are on the outskirts of Chicago and are contiguous with Chicago. The Schirmer boy was kidnapped, and a great and extensive search was made in which Schirmer played a leading part. The boy could not be found, and his mother gave him up for dead. Some sixteen years later the mother learned that Schirmer had brought the boy to Arkansas and had raised him to manhood, 'neglecting' to tell her that her son was not dead, and that he had him in his custody. I insert this story in this report to you because it demonstrates the complete heartlessness of this individual and it illustrates the type of man you will be facing if you decide to stop his racket.

"On October 6, 1933, Schirmer wrote Dr. L. L. Marshall of this city. At that time he lived at 2538 Ridge Avenue, Highland, Indiana, which is also on the outskirts of Chicago. The Arkansas Eclectic Licensing Board had been shaken up in the meantime, and Dr. Marshall had replaced Dr. C. E. Laws as Secretary. Schirmer's stationery read J. S. Schirmer, M.D., Highland, Indiana. Schirmer's letter to Dr. Marshall stated:

" 'I lost the address of the Secretary of the State Association and I would appreciate your sending me his address. I am planning on locating some place in Northern Arkansas, and if you know of any desirable location I would more than appreciate any suggestions you might offer. In 1925 we had a fire destroying all my things in fact just escaping in our scant clothing. I lost my Arkansas License at that time in the fire and I told Dr. Laws about it but never requested a duplicate. Please advise me what steps to take and fee to forward for a duplicate.

" 'With the very kindest regards, I am'

"We next hear from Schirmer on January 7, 1934, when he again writes to Dr. Marshall on stationery which this time reads 'J. S. Schirmer, M.D., 24 One Hundred Sixty-Ninth Street, Hammond, Indiana.' This is a most unusual letter, since it is obviously an offer to Dr. Marshall to assist him in bribing his way into an organization to which he was not entitled to membership. This apparently was Schirmer's method of softening Dr. Marshall or ingratiating himself so that Dr. Marshall would close his eyes and issue Schirmer a license in Arkansas to which he was not entitled under the records. The letter reads:

" 'You will no doubt be surprised in hearing from me, but yesterday I had a long talk with Dr. Limm, Vice-President, Jackson Park Hospital and member of the Credential Board of the College of Surgeons. He asked me to make out an application for F.A.C.S. which I did and so while talking I asked him if he could suggest for membership, one from another state and was advised he could and not only that but he could put it over. So I thought that it might interest you and at the same time be quite a slap at some of our Allopathic Surgeons in Little Rock. If Dr. Limm says he will see it through, one can rely upon his word and he will use every ounce of his power to win his point. I did not know if you were a Fellow of the College but thought if you were not and should want the affiliation that this would be a good time to start the Ball Rolling, and you can rely upon my getting the application into the right hand. If you hear of a good location in Arkansas, I would appreciate any information, as I traveled over the Larger part of the Northern part of the state but could not find just what I wanted.

" 'Trusting you had a very Merry Xmas and 1934 be a successful and Prosperous Year, I am'

"Although Schirmer's stationery stated that he was a practicing physician in Indiana, he was never licensed to practice any branch of the healing arts in the State of Indiana. I have in my possession a letter from the Executive Secretary of the Indiana State Board of Medical Registration and Examination stating that there is no record in Indiana 'of anyone by the name of Jacob Sass Schirmer ever having a license to practice any branch of the healing arts in the State of Indiana.'

"Dr. Marshall was not the type man Schirmer had hoped. The records reflect that he did not seek to avail himself of Schirmer's fraudulent offer. Instead, we find that on November 16, 1934, ten months after Schirmer's second letter to him, Schirmer furnished an affidavit to Dr. Marshall which read as follows:

" 'I, Jacob S. Schirmer, M.D., of lawful age being duly sworn deposes and says:

" 'I took a written examination before the Eclectic State Medical Board and was granted a certificate dated November 10, 1920. I further state that in November 1925 my license was destroyed by fire. I am making this affidavit for the purpose of obtaining another license.'

"It should be remembered that Dr. Marshall was well aware of the investigation being carried on over the fraudulent issuance of licenses. He was a reputable physician practicing in Little Rock, and for his own protection, he attached his signed and certified statement to Schirmer's affidavit which read as follows:

"'Upon receipt of this affidavit one of our regular form licenses, signed by all of the present Board Members, was issued. In the blank space originally intended for the word "Examination" or "Reciprocity" to be written—the word "Upon" was struck out and in this space was printed—"IN LIEU OF LOST CERTIFICATE GRANTED UPON WRITTEN EXAMINATION. Nov. 10, 1920." Sent by registered mail to him at Corning, Arkansas, this date, December 14, 1934.'

"May I call to your attention the fact that Dr. Marshall had in his possession the records and minutes of the Arkansas Eclectic Board which would have reflected that Schirmer was issued his license on written examination on November 9th or 10th, 1920, had the statements made in Schirmer's affidavit been true. What then prompted Dr. Marshall's unusual action in placing his signed statement as to why he issued Schirmer's license in the records of the Board? The answer is obvious. An examination of the records of the Eclectic Board reflects that Schirmer's statement was untrue, and that he did not take an examination on the 9th or 10th of November 1920, nor had he been granted a license by that board at that time.

"The minutes of the Arkansas Eclectic Medical Board, written entirely in the handwriting of the Secretary and attested by the President, Dr. Jackson, show that eight individuals took the examination for eclectic medical licenses from this Board on November 9 and 10, 1920, and that Schirmer was not one of the eight. His name does not appear in these minutes at any time or at any place. Also, forming positive proof that Schirmer's statement in his affidavit to Dr. Marshall was fraudulent and deceitful, the report of the Arkansas Eclectic Medical Board to the American Medical Association, signed by the Secretary of the Board as of that date, of which I have a photostatic copy, shows that Schirmer was not one of those taking the examination. There is a very interesting bit of information contained in the minutes of the November 9 and 10, 1920, meeting of the Eclectic Medical Board. I quote: 'Motion by Dr. C. E. Spann that this Board establish reciprocal relations with the Eclectic Board of Connecticut, and that the Secretary extend to the Secretary of the Connecticut Board a proposal that a mutual exchange of licenses between the two boards. Carried and so ordered.' This explains why Schirmer was forced to wait until the spring meeting of the Arkansas Eclectic Board in 1921 to get his license in Arkansas by reciprocity. His later revoked Connecticut license had been issued August 5, 1920, and he could have received a license by reciprocity at the November 9 and 10, 1920, meeting of the Arkansas Board, except for the fact that there had been no reciprocal agreement between Connecticut and Arkansas. After that reciprocal agreement was entered into, Schirmer obtained his Arkansas license by reciprocity with Connecticut.

"Having obtained a license by use of an affidavit not substantiated by the records, and issued solely upon his unsupported statement, Schirmer moved to Corning, Arkansas, and began the practice of medicine. Apparently his practice in the beginning at Corning was not as lucrative as his later 'cancer and leukemia cure' practice, because on January 10, 1938, Schirmer filed a petition in bankruptcy in Case #2002. Schirmer listed his assets as office equipment valued at $100.00 and one set of instruments at $25.00. Schirmer listed no real estate. On February 4, 1938, Hon. Max B. Reid, a capable and competent attorney of Blytheville, Arkansas, was appointed as attorney for the trustee in bankruptcy to pursue assets thought to be held by Schirmer and fraudulently withheld in bankruptcy. In the bankruptcy records we found a claim based upon credit extended to Schirmer on a credit application made by him wherein he stated that he had been a practicing physician 'at Chicago, Illinois, for ten years.' The records reflect that notwithstanding Schirmer's sworn statement that the only assets he had were his office equipment and instruments and approximately $1,000.00 debts owed him, after several hearings at which he was vigorously cross-examined by Mr. Reid, Schirmer produced approximately $6,000.00 in cash and settled with his creditors.

"Schirmer's bankruptcy is of special interest, viewed in the light of the recent announcement that he had transferred his research hospital to a church and that the hospital was valued at $400,000.00. *The question immediately arises* as to how a physician in a small town can accumulate this kind of wealth in such a relatively short period, especially when that very physician had gone bankrupt in his first four years of practice in this same town. The answer is even more fantastic and bizarre than Schirmer's earlier activities. After clearing his slate of the debts and losses of his beginning practice, Schirmer associated himself with and became one of the leading exponents of the mythical cancer cure originated by one William F. Koch of Detroit. Koch, one of the most notorious quacks and frauds of the modern era, was the subject of an article appearing in the *Commercial Appeal* of Memphis, Tennessee, on Monday, February 20, 1950. I commend that article to your reading for a full disclosure of the associates of Koch and his satellite, Jacob S. Schirmer. The *Commercial Appeal* says:

"'It's an interesting assortment of quacks, anti-Semitics, Fascists, rabble-rousers and low-rated ministers that has gathered around Dr. William Frederick Koch to peddle and propagandize his "cure" for cancer known as "glyoxylide," which Government chemists says is indistinguishable from distilled water.'

"Let us examine Koch's associates, that is, the principal figures in Koch's movement. Koch himself announced a cancer cure a year after graduating from a medical college, the Detroit College of Medicine and Surgery. He immediately began a wide advertising campaign to sell his product which he called 'glyoxylide.' He formed the Koch Cancer Foundation, gathering around him a collection of known quacks and medical frauds. He then formed Koch Laboratories, Inc., which owned and manufactured Koch's so-called 'glyoxylide.' When Koch's claims gave him national notoriety, he immediately joined forces with the notorious Gerald B. Winrod, an alleged minister, Rev. Sam Swain and an undertaker who was a friend of Winrod. All had many times been openly branded as out-and-out Fascists. Indeed, Winrod was directly linked with the Silver Shirts in a 1940 report of the House Un-American Activities Committee. These individuals, following the path of the quacks for ages, changed the organization from Koch Laboratories, Inc., and sought to hide behind religious protection. They named their corporation the Christian Medical Research League of Detroit. Winrod, who immediately made claims publicly that Koch was 'the founder of a science which will in all probability revolutionize the medical profession,' was the editor of the Defender Magazine, a known anti-Semitic publication which, cloaked by a religious front, became the chief advertising medium for the Koch gang (of which Schirmer was one of the principal exponents), using his hospital as the chief testing ground. The Koch group set up in Detroit what they called 'The Lutheran Research Society,' which the Lutheran Church immediately branded as having no connection whatever with any legitimate Lutheran enterprise. Using this religious title, the group then published 'The Birth of a Science,' which was merely to spread the word of the wonders of Koch's nostrum. Although government and other reputable chemists and scientists branded Koch's 'glyoxylide' as a complete fraud, the group, by Hollywoodian advertising claims, amassed a fortune through its sale. Efforts to eradicate this menace were met with screams and cries of religious persecution. The true quack always assumes a religious front to protect him from a just accounting to the law. As stated by an outstanding writer on medical quacks:

"'No Quack is a perfect Quack without a pretense of religion. Deprive him of religion and you deprive him of his strongest sales talk. In that respect the Quack differs from the Bootlegger, Poacher and Abortionist. Religion is not regulated by law, until it interferes with the rights of the public. . . .'

"When the cold light of public scrutiny began to dissolve the Koch myth and after thirty years the so-called 'revolutionary science' had been shown to be what it was, a fraud and a delusion by a group of skillful propagandists, and when an aroused public began to move in on Koch, Winrod screamed that he was the victim of a diabolical plot by the Jewish race to prevent Koch and him from curing the world's ills. Winrod was labeled by the House Un-American Activities Committee: 'Gerald B. Winrod, Kansas preacher, Nazi protagonist and an unsuccessful candidate for the Senate.' Winrod was placed fourth on a list of organizations and individuals who took part in one way or another in an attempt to create a united Fascist movement.

"During all this time Schirmer's hospital was the principal focal point for the actual administering of this distilled water. Schirmer was busily engaged in piling up money at $25.00 per shot while assuring the Arkansas Eclectic Board that his motives were pure.

"The Rev. Sam Swain was a minister operating what was known locally as the National Gospel Center at Akron, Ohio. The files of the Bureau of Investigation of the American Medical Association state:

"'On the fringe of quackery in religion and an out-and-out fascist. He is not a member of the Akron Ministerial Association, but is classed by this body as an itinerant evangelistic minister with a low rating of respectability in the community.'

"That Schirmer was a devout disciple of Koch, Winrod, et al., is evidenced from his letter to a friend in New Mexico on November 4, 1950, wherein he stated:

"'I feel that each and every Doctor practicing medicine in the States owe Dr. Swain, Dr. Reilly and Dr. Winrod and the entire staff at Christian Medical Research Laboratories our most wholehearted appreciation of their efforts in manufacturing and distributing Glyoxylide and for their untiring efforts and constant fighting to promote and enlighten all of the merits of Glyoxylide.'

"This friend had written Schirmer at the suggestion of the Rev. Sam Swain who had informed him that Schirmer would advise him as to the Koch treatment. Although it is a violation of the Arkansas Statutes governing the practicing of medicine to claim to cure an incurable disease, this had very little meaning to Schirmer, who very glibly stated in his letter:

"'I can go on for hours and give you case histories of patients who have recovered, but don't forget that my percentage of symptom free patients is only 70 per cent but about 90 per cent were given up to die.'

"When the Koch Foundation faded, and when Koch decided the seashores of Brazil were necessary for his health and Rev. Swain and Rev. Winrod entered the Courts battling over the dead corpus, Schirmer, with his customary ability, transferred his affections. He is now conducting 'The Affiliate Hospital of the Lincoln Foundation.' This report will not be complete without a mention of Schirmer's recent and latest enterprise. The Lincoln Foundation is a corporation formed to market a treatment for cancer, leukemia and incurable diseases by the method of inhaling a bacteriophage. This is a patented method of treatment by one Robert E. Lincoln of Medford, Massachusetts, who claims marvelous cures for incurable diseases by inhaling some substance through the nose. This so-called cure has been condemned as being worthless by the Massachusetts Medical Society study of the Lincoln therapy. Notwithstanding the sensational claims by Dr. Lincoln and notwithstanding a statement made in a Congressional investigation to the effect that Schirmer was treating seventy-five cancer patients at his 'affiliate hospital,' Schirmer appeared before the Eclectic Medical Board of this state (according to the minutes of that board of September 20, 1952) and on inquiry from the members of the board, stated that:

"'The bacteriophage is a new medicine and at this time is used on human beings for experimental purposes only and that no claim is made by any doctor that it will cure anything.'

"This is an astounding statement in the light of the numerous patients suffering with incurable diseases which Schirmer has been handling in his Corning Hospital. The legal implications are rather severe, in that Schirmer would be legally responsible in damages for administering to human beings a supposed cancer cure which he himself reported was only in an experimental stage and was not claimed to be curative of anything. Nevertheless, the minutes of the Eclectic Medical Board reflect such a statement.

"In the spring of 1953, immediately after investigations were begun of Schirmer, he followed the pattern set by his predecessors and attempted to draw a religious veil across his operations. He deeded his hospital to certain trustees for the benefit of the Church of God of Arkansas. This deed was dated May 16, 1953, and was filed for record on May 22, 1953. Announcement was made that Schirmer had recently attended a church meeting and had been converted to this faith. An interesting feature of this conveyance is that some few days prior to the conveyance, a mortgage from the Corning Research Hospital, Inc. (which is Schirmer's corporation in which he held title to the hospital), to Schirmer's present wife, Helen J. Schirmer, in the sum of $24,488.69 was recorded at page 80 of Mortgage Book Record 30. This mortgage was dated November 1, 1951, but was not recorded until April 28, 1953, nor was it acknowledge by the Notary Public until April 28, 1953. This was just a few days before Schirmer got religion. May I call your attention to the fact that while the deed was dated November 1, 1951, and was purportedly signed by the corporation, the Corning Research Hospital, Inc. (by J. S. Schirmer, President, and Helen J. Schirmer, Secretary-Treasurer), this corporation was not incorporated until November 13, 1951, and was not in existence at the time the mortgage is purported to have been dated. It is interesting to note that there is also due and payable on these properties which Schirmer grandiloquently gave to the church, a mortgage for $18,950.00 executed December 18, 1946, on which there is a balance due to the R.F.C. and a mortgage from J. S. Schirmer to Sonja L. Schirmer (another wife) dated November 10, 1950, and filed for record February 5, 1951, securing the payment of $6,103.00 to Sonja L. Schirmer as a part of a divorce settlement. There is also on record a bill of sale from Dr. J. S. Schirmer to his son, Dr. J. F. Schirmer, conveying:

"'All surgical and hospital supplies and equipment and all office supplies and equipment located in the Corning Hospital, Corning, Arkansas, including among other things X-ray machines, and supplies, operating equipment, lights, drugs, and surgical supplies and hospital beds, and equipment.'

"In the light of the assessed valuation of this property (the general taxes for 1952 were $115.00), it is doubtful that Schirmer transferred any equity value to the church, and leads to a conclusion that Schirmer was following the steps of his idol, Koch, in seeking to give to his activities a religious flavor. Certainly such act should not retard or prevent immediate action by the responsible officials of the State of Arkansas to prohibit further activity by this individual.

"Action by the State of Arkansas against Schirmer to prohibit his unlawful activities will undoubtedly be long and expensive. There is every indication that there is money in considerable amounts behind Schirmer, that this 'golden egg' will not be lightly relinquished.

"May I respectfully suggest in conclusion that there are reputable and responsible groups in the State of Arkansas who should be more than glad to join hands in an effort to eradicate this menace to the public health. Invitation should be given them to participate in all legal proceedings. This matter is so involved and so complex that all should be invited to participate who have as their objective the promotion of the public good and the public welfare."

COUNCIL ON MEDICAL SERVICE

During the summers of 1952 and 1953 the Council's Committee on Extension of Hospitals and Other Facilities employed medical students from Northwestern University Medical School to study the physician placement programs of a number of state medical associations. Descriptions of five of these programs were published in The Journal *on Feb. 21, 1953. The following is the sixth in this series of articles.*—Ed.

PLACEMENT OF PHYSICIANS IN ILLINOIS

The state of Illinois does not at the present time have a widespread shortage of physicians. There is a slight maldistribution of physicians, as in most states, with a relatively higher percentage practicing in urban areas than rural areas. Although the Physicians Placement Service that is operated by the Illinois State Medical Society has more than 130 locations listed as open, most of which are small communities, there is not a great deal of concern about the magnitude of the number. Many of these locations represent a vacancy created by the death of a practitioner who had been practicing there for many years. In many such instances these openings do not need to be filled. The other apparent reason for the open locations is that many Illinois physicians have been called into service with the armed forces. Helping communities that have lost their physicians to the armed services is one of the main functions of the Illinois Placement Service.

One factor that serves to produce a pseudoshortage is that many of the citizens consider it a hardship to travel a distance of several miles to the office of a physician. With the fine roads in Illinois, the Illinois State Medical Society will not recognize an area as inconveniently located unless it is a minimum of 10 miles from medical care.

The southern part of Illinois has a lower ratio of physicians to population than the northern part of the state. It is financially less attractive than the northern part, and its principal industry, which is mining, is now operating at a reduced pace. Until recently there were too few hospital facilities in the southern area and in the rural areas of Illinois generally. This served as a deterrent to young physicians. However, since the advent of the Hill-Burton Program, 25 of the 42 projects approved for Illinois have been completed. At least 15 of these new hospitals are located in southern Illinois, and the availability of these new facilities has eased the situation in this area by attracting physicians. Today no person in the state is more than 30 minutes from adequate medical care and hospital facilities.

CONDITIONS PREVENTING AN ACUTE SHORTAGE

Several factors collectively prevent a serious shortage of physicians from developing in Illinois. Illinois is fortunate in having five class A medical schools, which graduated 504 physicians in 1953. Of this number, 236 are residents of Illinois, many of whom will return to their home community or establish practice in other areas of the state. The relative wealth of Illinois and the fact that every area is reasonably near a large hospital or a medical center serve to attract physicians to establish practice in the state.

To assist physicians in finding a desirable area in which to establish practice or to relocate, the Illinois State Medical Society carries on an active program in its Physicians Placement Service. This service is a function of the office of the secretary of the medical society in Monmouth, Ill.

HISTORY OF THE PHYSICIANS PLACEMENT SERVICE

The Physicians Placement Service of the Illinois State Medical Society is an outgrowth of the Procurement and Assignment Service of World War II. The secretary of the society, Harold M. Camp, M.D., served as Illinois chairman of the Procurement and Assignment Service; when the "relocation" correspondence was transferred to the files of the society at the close of the war, the information contained in these files was used by the placement service until further data could be collected by questionnaires. Since the inception of the service, Mrs. Jane Swanson has been operating it under the direction of Dr. Camp. In recent years approximately 75 physicians have been placed, principally in communities in downstate Illinois. At present the service is corresponding with 135 physicians who have requested assistance in finding a suitable location. As a result of a press release on Jan. 15, 1953, concerning the Physicians Placement Service, the number of requests, from both physicians and communities, has taken a sharp turn upward.

OPERATION OF THE PLACEMENT SERVICE

Requests from Physicians.—Physicians are referred to the Illinois office by several organizations. The American Medical Association refers all correspondence to Illinois in accordance with the policy of referring all requests for assistance from communities and physicians to all states that have an adequate placement service. But the majority of requests received by the Illinois office are received directly from physicians, by mail and by personal visits to the office in some cases.

Although all requests receive the personal attention of Dr. Camp, Mrs. Swanson attends to the details such as sending a questionnaire to obtain information on the physician's educational background, his interests, and preferences as to type of practice, and especially his draft status. Upon return of the questionnaire the physician is sent a complete list of openings, including information on each location as to facilities for home life, office space, proximity to hospital facilities, and other information contained in a 30-page mimeographed booklet. Simultaneously the physician is notified by form letter that his name has been added to the mailing list and that he will receive weekly bulletins with information on new locations as they develop. All of the physicians requesting assistance from the Physicians Placement Service are listed regardless of whether or not they are members of a county medical society.

Physicians who wish to establish a general practice are assisted directly by the Illinois office. Those who desire an industrial or institutional position or wish to practice a specialty are first sent a list of openings in Illinois and then their request is referred to the American Medical Association, which sends them a list of all such openings in the United States. The A. M. A. also refers requests for a specialty opening to the national association of that specialty if it has a placement service.

Illinois uses two methods of "follow-up" on physicians to determine whether they are still available. The most frequent is a request, included in each weekly bulletin, that the physicians notify the office if they have decided upon a permanent location or if their status has changed in any way. The second is a special form letter sent at frequent intervals asking them for similar information.

The questionnaire, which the physician completes, contains such information as his citizenship status, religious affiliation, preference as to area in the state, and the type of practice that he wants to establish. Comprehensive information is recorded concerning his present draft status and service record. Unless the physician has contacted his draft board to ascertain approximately when and if he will be called into service, he is urged to do this before arranging to set up practice. The expense of setting up practice by the young physician, coupled with the fact that it is unfair to the community to fill a location temporarily when it might be filled shortly by a physician who would be permanent, are two points used to dissuade a draft-eligible physician from setting up practice. On the other hand, if the area has a high priority rating of need, both community and physician may feel even a temporary practice worth while, in view of the possibility of one or more deferments while attempts are being made to find a replacement for him.

Requests from Communities.—The placement service is informed of communities in need of additional physicians by several means. Frequently, responsible citizens or overburdened physicians in a community will write to the Physicians Placement Service and occasionally committees representing a community will visit the office. However, all requests that have been made to the American Medical Association, the Illinois State Health Department, and Illinois Farm Publications are referred to the placement service. When informed of a community in need of a physician, the placement service sends out several questionnaires to obtain information on the location as well as to verify the need and determine the severity of the need.

The first questionnaire to the correspondent in the community must be completed and returned before the opening will be listed. Another questionnaire is sent to the secretary of the county medical society in the county in which the opening is located. In addition to this questionnaire, the placement service sends the community information on ways and means of attracting a physician. However, unless a community specifically requests a list of physicians who are available, the placement service does not send out the list of names. It would require extensive work and facilities for a community to contact the large number of physicians on the list, so the office of the placement service performs this service for the community for no charge.

The principal points of interest to a physician are extracted from all of the questionnaires and recorded. The location is immediately publicized in the weekly bulletin sent to all physicians on the mailing list. Later the opening is included in a mimeographed booklet that is sent to all physicians who subsequently are added to the mailing lists. In addition, the American Medical Association is informed so that physicians visiting its office in Chicago may obtain complete information on Illinois. To satisfy the community that the placement service is giving its request adequate attention, the community will also receive a copy of the section of the bulletin containing the release listing the community. As a "follow-up" on the opening, the placement service sends out form letters at intervals of six months inquiring of the original correspondent whether or not the opening has been filled.

Unfortunately, there are times when an opening is filled when neither the new physician nor the community informs the placement service. Many physicians using the services offered to them by the placement service establish practice in areas about which they have learned in visiting the openings listed by the placement service or return to their home towns to practice; this frequently makes medical service available to another nearby community that has been in need of a physician. Failure to notify the placement service in such instances results in additional work for all concerned.

Many communities, however, have informed the office when a physician has established practice in the community or within a convenient traveling distance. Likewise, physicians have notified the office as to the locations they have taken. These letters from the physicians and community are sent in spontaneously or as a result of the "follow-up" letters which the office sends out at frequent intervals. Another source the placement service has for determining the openings which have been filled is the lists of new members of county medical societies that are reported to the state office of the medical society.

Study of Openings.—Illinois investigates carefully each request from communities. Although a representative of the placement service is not sent to investigate the openings at the present time, information that can be used to evaluate the degree of need, as well as attractiveness to a physician, is obtained from the questionnaires that are completed by residents of the community. In these questionnaires, the number of physicians serving the area and their ages are recorded. If no physician is located there, then the distance which the people of the area must travel to reach medical care is included along with the reasons why there is no physician there now, or why the last physician left. The nearest hospitals are listed, and considerable economic information concerning the area is added. Any special arrangements that the community has made to attract a physician such as providing housing, office space and equipment, and any financial assistance that the community is offering are appended.

In the questionnaire sent to the secretary of the county medical society, questions that can best be answered by a professional person are listed. Information is obtained concerning the nearest hospital in which a new physician has reasonable assurance of staff privileges and the policy of the hospital concerning citizenship requirements for staff membership. Also included are questions relative to any special arrangements by which a new physician could augment his income.

The questionnaires contain, in addition to the above, the personal opinion of each writer as to the validity of the request for more medical personnel and the desirability of the location to a physician. These opinions, in addition to the body of information on the opening, plus any items of information contained in personal letters or within the personal knowledge of the state secretary, are all used in establishing the need and attractiveness of the opening. Dr. Camp does not believe that a visit by a representative of the state office would serve more effectively to evaluate the opening. He is of the opinion that the completeness of the information on the opening sent to available physicians allows them to judge for themselves. If sufficiently interested, they will be prompted to visit the location personally to become acquainted with all of the features that by their nature cannot be summarized in a letter.

Policy Toward Communities That Do Not Need or Cannot Support a Physician.—Communities that request aid in finding a physician are investigated thoroughly by the placement service. Unless the need is proved to be bona fide, the community is not listed as a desirable location, but, for the sake of public relations, this is being considered. There are frequent letters from persons who have office space to let or a home to sell stating there is a wonderful opportunity for a physician to establish a practice in that community and, fortunately, there is a home for sale or office space to let. These requests are investigated and passed over unless a need is established.

Dr. Camp states that frequently people are naive as to the cost of medical education and the expense of setting up a practice and expect a physician to locate in their community even though it could not possibly support him. He attempts by direct contact when possible to inform people of the expense of education and of setting up practice and of the fact that a physician is justified in expecting his practice to support him. Communities are notified when they are in an area where medical care is readily available if this fact is established by the placement service office or that the area is so sparsely settled that it could not support a physician. In the latter case, if there is need, the community is urged to undertake a program to provide emergency transportation to the nearest medical facilities such as the establishment of an ambulance service by the local undertaker or volunteer fire department.

Requests have come from small communities adjoining large towns where complete medical and diagnostic facilities are available. In such cases the local citizens desired a physician to provide a more rapid emergency service or to take night calls. When questioned, most persons would go to the nearby city "where better facilities would be available" for chronic ailments, special examinations, or even nonemergency services in preference to using a physician who might set up practice there. Dr. Camp is rather impatient with this attitude and straight-forward in explaining that they will of necessity use the nearby medical center as he will not help the town secure a "first aid man."

Recently, a small town was called to the attention of the placement service. At the turn of the century two resident physicians were located there. Within the radius of 10 miles, there were a total of 16 physicians in the horse and buggy days. Today this small town has no physician, and within the 10 mile radius there are two physicians who cover more territory and see more patients during the year than the 16 did in the old days. With the all-season roads, use of cars, and with modern facilities, there are no instances where a physician could not be available within a short time even for emergencies in Illinois.

Aiding Communities to Attract Physicians.—The Illinois Physicians Placement Service assists small communities to develop programs to attract physicians. The questionnaire to a community suggests such things as offering home facilities and office facilities. Each community is sent a reprint from the *Farm Journal* on "How to Get a Doctor," which has many suggestions, and in addition, a reprint of "If Your Town Needs a Doctor—Elletsville Shows the Way" from *Progress in Health Service*, published by the Health Information Foundation.

As reported in the Annual Reports of Officers and Committees to the House of Delegates of the Illinois State Medical Society, it is commonly the policy of the placement service to "insist that towns needing a physician have a suitable home and office space for the new doctor, before [the community is added to the list of prospective locations]. A number of them have also accumulated a sum of money placed in a local bank, from which the physician can draw at a low rate of interest, to aid in purchasing equipment, household goods, and perhaps make the first payment on the needed car. One community recently wrote stating that a home and office were available for a doctor, and there would be no rental charge the first year, and not until the practice would justify the additional expense." [1]

Effort to Publicize the Physicians Placement Service.—As a result of a state-wide press release on Jan. 15, 1953, describing the activities, accomplishments, and the services of the Physicians Placement Service of the Illinois State Medical Society, there has been an increasing number of communities requesting assistance. The fact that the services of the placement office are available for no charge to either physician or community induces many to contact the placement office. Last winter the journal of the state medical society carried an editorial concerning the placement service, and each month the office of the secretary sends out a newsletter. Beginning July 1, 1953, the newsletter will include reference to the activities of the placement service.

In the winter of 1951 the state medical society sponsored a dinner in Chicago for the interns and residents in the Chicago region. The discussion on physician placement and an invitation to all to use the service resulted in considerable response. Since this dinner was so successful, plans are being made for similar dinners in the future.

Plans for the Future.—The Illinois office has recently changed the style of the mimeographed booklet containing the list of the communities in need of a physician to the short page, single entry style used by the placement service of the American Medical Association. To further aid the communities in developing programs to attract physicians, the pamphlets prepared by the American Medical Association entitled "A Doctor for Your Community" and "Physicians Placement Service" will be widely distributed. Reprints of "Country Doctor—Does Your Community Need One?" from *Farm and Ranch* will be distributed also. To further aid the inquiring physicians, additional information and printed material will soon be sent to them. Information on the per capita wealth of each county in the state will be supplied by the Illinois Public Aid Commission. Complete data on each approved hospital in the state is being compiled and will be furnished in addition to reprints of "Rural Practice Can Be Fun" from the *Journal of the Student American Medical Association.* At the present time, work is underway on the preparation of a brochure containing a scenic and historic map, a road map of Illinois, letters of invitation, and complete descriptions of all counties and locations needing a physician.

Since the relatively small amount of publicity of the placement service of Illinois has yielded so many requests, it is planned to further publicize the services that the Illinois State Medical Society offers to communities and physicians. The state of Illinois is indeed fortunate in having such a progressive, well organized Physicians Placement Service.

ACTIVITIES RELATED TO THE PLACEMENT PROBLEM

There are many factors contributing to the shortage of physicians in rural areas. The maldistribution of physicians between the rural and urban areas is the predominant cause. Encouraging physicians to establish practice in rural areas is one means of alleviating the shortage. Another means is to increase the supply of general practitioners so that the rural areas will get more physicians. By providing a placement service designed to aid especially the rural areas, the Illinois State Medical Society is partially alleviating the shortage. This direct effort on the part of the medical profession is supplemented by other activities designed to interest physicians in general practice and in locating in small communities.

Loan Funds.—The Illinois State Medical Society and the Illinois Agricultural Association have a joint fund that now grants $1,250 annually for four years of their training prior to internship to each of 10 students. These students are selected from the 10 Illinois counties most in need of physicians. The loan is made for four years at 2% interest per annum and the student may attend any class A medical school. In return, the student agrees to return to a community in an approved county of less than 5,000 to practice for a minimum of five years. During these five years of practice the young physician has opportunity to repay the loan according to the original contract. There are at present 42 students in various phases of their medical education or military career under this program.

Curriculum Programs.—The University of Illinois College of Medicine has an internship designed to prepare physicians for general practice. Although the internship is open to all students, it is especially designed for students who expect to practice in rural areas.

Plans are being studied for selective admission to the school to encourage the location of graduates in small towns and rural areas. Also being studied is a program for the establishment of extramural faculty positions and supervised residencies in rural hospitals.

Stritch School of Medicine of Loyola University has placed particular emphasis on general practice in the training of its students. The school catalogs material on rural opportunities and supplies information and advice on these openings to returning students, interns, and others. This service is to be extended and further publicized through the school's alumni newspaper.

Postgraduate and Refresher Courses.—The University of Illinois College of Medicine offers a program of postgraduate studies for general practitioners in rural and urban areas.

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1. Annual Reports of Officers and Committees, 1953 Annual Meeting, Chicago, Illinois State Medical Society, 1953, p. 22.

The Committee on Postgraduate Education of the Illinois State Medical Society presented nine major and three minor conferences throughout the state in 1952. At each program the staff from a prominent hospital or one of the five class A medical schools in the state presented a program on selected medical topics. All the physicians in a wide radius were invited to attend, and each program was well received by those attending. This committee has recently undertaken to raise funds for a detailed survey of postgraduate education in Illinois.

Clinics.—The University of Illinois Division of Services for Crippled Children holds general clinics for handicapped children at various locations throughout the state each month.

Associated Programs.—The Illinois State Medical Society and the Illinois Agricultural Association cooperate in attempting to increase medical service throughout the state. In 1951, for instance, they persuaded the University of Illinois College of Medicine to admit 15 more students to the freshman class.

BUREAU OF LEGAL MEDICINE AND LEGISLATION

MEDICOLEGAL ABSTRACTS

Blood Transfusion: Death from Hepatitis Following Use of Pooled Blood Plasma.—This was an action for damages seeking to impose liability on the State of New York for the death of the decedent as a result of virus infection caused by transfusion of pooled blood plasma distributed to the hospital by the state at the request of the Red Cross. The court of claims entered a judgment dismissing the claim (Parker v. State, 105 N.Y.S. (2) 735; *J. A. M. A.* **148**:1359 [April 12, 1952]), and from this judgment the plaintiff appealed to the supreme court, appellate division.

After the close of the last war, quantities of dried blood plasma, which had been collected from donors by the American Red Cross for the armed services, were declared surplus property by the government and turned back to the Red Cross to distribute for charitable purposes under the authority of a federal statute. The Red Cross requested the various states to undertake the free distribution of the plasma to hospitals for public use and the health department of the State of New York undertook the task of distributing within the state. Through the local agency of the Red Cross in Westchester County, some of it was sent by the state in 1947 and 1948 to the Northern Westchester Hospital at Mt. Kisco.

It was known to the medical profession, from the experience that had been gained with whole blood transfusions and with transfusions derived from dried blood plasma, that there was some risk of transmitting virus diseases, especially a form of serum jaundice; and that this risk was greater in the case of pooled dried plasma because the virus of one infected donor would contaminate the rest of the plasma with which it was in contact in the same container. Nevertheless there were circumstances when sound medical judgment indicated the use of pooled dried plasma. There are varied expressions in the record before us, said the court, as to the risk involved in the use of this type of plasma and the limitations of its use. A good statement is contained in the report of the Committee on Blood and Blood Derivatives of the American Red Cross, copies of which were sent to all state health officers in August, 1947. The report was published in the *Journal of the American Medical Association,* November 15, of that year. The conclusion of this statement, on which the plaintiff places heavy emphasis here, is that all practicing physicians "should be reminded" of the "potential risk" in the administration of pooled plasma and should be "urged to restrict its use" to "chiefly serious emergencies, when its use is clearly indicated and when safer agents such as whole blood or serum albumin are not available."

On the morning of Nov. 21, 1948, the claimant's husband was found unconscious along a road. He was picked up by a passerby and taken to the Northern Westchester Hospital. He had a cerebral concussion and was in shock and critical condition. A physician, who undertook his treatment at the hospital, prescribed a transfusion of blood plasma. Plasma that the Red Cross had received from the government and that the New York Health Department had distributed for the Red Cross was used for this purpose. The plaintiff recovered from the acute effects of the concussion and was discharged from the hospital as improved after eight days. A little over two months later, he became ill from a form of serum jaundice and died on Feb. 12, 1949.

The Court of Claims found the jaundice infection and death the result of transmission of the virus by the transfusion derived from the pooled plasma, but it granted judgment dismissing the claim on the ground that the state thereby incurred no tort liability. The state in undertaking to distribute the plasma to hospitals for the Red Cross, said the appellate division, had a right to expect two things, (*a*) that the hospitals would be guided by the judgment of the medical profession in the circumstances indicating the use of the plasma and (*b*) that the profession would use an accepted standard of professional judgment in prescribing its use. If a physician prescribed the serum mistakenly or by an erroneous professional judgment, the legal responsibility for such an error could not be brought home to the state under any admissible theory of tort liability merely because it had acted for the American Red Cross as an agent of distribution. The record demonstrates that there are circumstances in which careful medical judgment would regard the immediate institution of shock treatment as outweighing greatly the mathematical possibility of virus infection. There is proof that there were other and possibly "safer" types of transfusion material in the hospital, but the record would sustain a finding that the plasma could more quickly be brought into use, when the hour of admission of the patient to the hospital and the need for preliminary blood tests, requiring the availability of both time and technicians, are kept in mind.

We must assume from the record, the court continued, that the physician's course of treatment was based on sound medical judgment. Certainly the state would incur no tort liability if the physician who treated the patient had acted with that kind of medical judgment. Even if he had acted mistakenly or had made a wrong decision, the state would not be responsible unless in the exercise of reasonable care it could be required to foresee such a result. The state was bound to know that the use of this type of plasma involved some risk, but with that knowledge it also knew that its use was justifiable when the risk involved ought, in good medical judgment, to be taken. It had a right to expect that the profession would use an agency of limited medical usefulness under limited conditions. The level of expectation of danger imposed on the State did not rise above that which would be required of a reasonably well-informed medical officer in carrying out the distribution program of the Red Cross, and the state could rest safely in the expectation that the plasma would be used in a recognized hospital only under competent professional prescription. We are of opinion that the state's liability has not been demonstrated.

Accordingly the judgment of the Court of Claims in favor of the State of New York was affirmed. *Parker v. State, 112 N. Y. S. (2d) 695 (New York 1952).*

MEDICAL LITERATURE ABSTRACTS

UNITED STATES

A.M.A. Arch. Dermat. and Syphilol., Chicago

68:1-118 (July) 1953

Reticuloendothelial Cell Hyperplasia in Relation to Antimonial Therapy of Mycosis Fungoides. J. Garb and C. F. Sims.—p. 1.
Clinical Evaluation of Topically Applied Estrogen Cream in Acne Vulgaris. H. H. Sawicky, J. L. Danto and W. S. Maddin.—p. 17.
Angiokeratoma Corporis Diffusum. M. Ruiter.—p. 21.
Changes of Climate and Environment in Treatment of Dermatologic Diseases: Effect on Neurodermatitis and Certain Other Chronic Dermatoses. L. M. Smith and H. D. Garrett.—p. 28.
Epidemic Favus of Glabrous Skin. I. M. Fishman.—p. 38.
Ocular Psoriasis: Clinical Review of Eleven Cases and Some Comments on Treatment. R. Kaldeck.—p. 44.
Eosinophilic Response After Inunction of Hydrocortisone Ointment: Experiments Demonstrating Lack of Significant Absorption and of Systemic Effects. C. C. Smith.—p. 50.
Problems of Military Dermatology. R. R. Kierland.—p. 54.
Physical Allergies. R. R. Kierland.—p. 61.
Etiology of Nummular Eczema. L. P. Fowle and J. W. Rice.—p. 69.

A.M.A. Arch. Ind. Hyg. & Occupat. Med., Chicago

8:1-96 (July) 1953

*Berylliosis: Summary and Survey of All Clinical Types Observed in 12 Year Period. J. M. DeNardi, H. S. Van Ordstrand, G. H. Curtis and J. Zielinski.—p. 1.
Industrial Hygiene in Latin America. J. J. Bloomfield.—p. 25.
Noise and Audiometric Histories Resulting from Cotton Textile Operations. J. R. Cox Jr., R. H. Mansur and C. R. Williams.—p. 36.
Nickel Poisoning: I. Experimental Study of Effects of Acute and Subacute Exposure to Nickel Carbonyl. J. F. Kincaid, J. S. Strong and F. W. Sunderman.—p. 48.
Physical Medicine and Rehabilitation as Related to Industrial Health. F. H. Krusen.—p. 61.
New Approaches to Health Hazard Evaluation of Pesticides. K. Kay. —p. 70.

Berylliosis.—The largest number of cases of acute beryllium intoxication have occurred in plants engaged in the extraction and processing of beryllium, and the largest number of cases of chronic berylliosis have been reported in connection with the manufacture of fluorescent lamps. Since 1940 DeNardi and associates have treated 468 patients with various types of beryllium intoxication observed among workers in three plants with a total employment of 3,027 persons and a present active personnel of 369. Among the 431 patients with acute beryllium intoxication, there were 10 fatalities in the pneumonitis group. The incidence of cutaneous berylliosis among workers in the beryllium industry has been reduced in recent years by preventive measures from 25 to 2% and the respiratory syndromes almost to zero. The eczematous type of dermatitis is caused by allergic sensitivity to beryllium compounds. Beryllium patch tests on patients with berylliosis, on controls, and in similar pathological conditions suggest that beryllium dermatitis is due to hypersensitization and that the patch test is an important tool in differential diagnosis. Clinical and laboratory data were obtained on 75 patients who recovered from tracheobronchitis and pneumonitis. Eight deaths occurred among the 37 patients who had chronic types of beryllium intoxication. The presence of beryllium in tissues and in urine is indicative of exposure to beryllium. The amount detected by present analytic methods does not bear any relationship to the diagnosis of berylliosis per se or to the severity of the disease if present. Beryllium remains in tissues and is excreted for years after the patient has been removed from exposure and is without evidence of beryllium poisoning. No persons included in the survey of patients recovering from acute pneumonitis developed the chronic or delayed form of berylliosis. Of the eight instances of chronic berylliosis of occupational origin, one patient had a medically established diagnosis of acute tracheobronchitis, while four others gave histories suggestive of acute tracheobronchitis during brief occupational exposures to beryllium. Treatment of berylliosis is mainly symptomatic, but recent observations suggest benefit from the use of corticotropin and cortisone in both the chronic and the acute manifestations.

A.M.A. Arch. Neurology and Psychiatry, Chicago

70:1-136 (July) 1953

*Progressive Neuropathic (Peroneal) Muscular Atrophy (Charcot-Marie-Tooth Disease): Histological Findings in Muscle Biopsy Specimens in Fourteen Cases, with Notes on Clinical Diagnosis and Familial Occurrence. A. Brodal, S. Böyesen and A. G. Frövig.—p. 1.
Studies on Blood-Brain Barrier with Radioactive Phosphorus: III. Embryonic Development of Barrier. L. Bakay.—p. 30.
Clinical Significance of Sclerosis of Cornu Ammonis: Ictal "Psychic Phenomena." K. Sano and N. Malamud.—p. 40.
Agonal Nature of Cerebral Ring Hemorrhages. J. Cammermeyer.—p. 54.
*Neural Toxicity in Tuberculous Patients Treated with Isoniazid (Isonicotinic Acid Hydrazide). G. D. Gammon, F. W. Burge and G. King. —p. 64.
Effect of Retrochiasmal Lesion Upon Variability of Absolute Visual Threshold. H. P. Krieger.—p. 70.
Effects of Aging on Cerebral Circulation and Metabolism. P. Scheinberg, I. Blackburn, M. Rich and M. Saslaw.—p. 77.
Central Neurological Complications of Hypoparathyroidism. O. Sugar. —p. 86.

Progressive Neuropathic (Peroneal) Muscular Atrophy.—Brodal and associates point out that most neurologists believe that one is justified in considering as a disease entity the condition variously called "peroneal muscular atrophy of the Charcot-Marie-Tooth type," "progressive neuritic muscular atrophy," or "spinal neuritic form of progressive muscular atrophy." The available evidence concerning its etiology is in favor of a disorder of the spinal cord and of peripheral nerves being the primary process, the muscular changes being secondary. The authors report histological observations on 20 muscle biopsy specimens from 14 patients with progressive neuropathic muscular atrophy of the Charcot-Marie-Tooth type. Eight of the patients were reexamined clinically after periods of up to 11 years. The mode of inheritance appears to be dominant. In early stages atrophy of muscle fibers in groups was typical. There was some increase in the hypolemmal nuclei and in connective tissue, but less in adipose tissue. Some fibers were hypertrophic. In disease of more than four years' duration atrophy of fibers in groups was still present, but less prominent. There was greater increase in connective tissue and a definite increase in hypolemmal nuclei. Degenerative changes in the nuclei (pyknotic nuclei, nuclei with a halo, "sick" nuclei) became conspicuous, as well as degeneration of sarcoplasm (granulation, vacuolation, cloudy swelling) and disintegration of myofibrils. Structurally preserved but extremely atrophic muscle fibers may, however, be seen even in cases of long-standing disease. The histological findings are compared with those in amyotrophic lateral sclerosis and other progressive muscular atrophies due to disease of peripheral motor neurons and with those occurring in peripheral nerve injuries in man and animals. It is concluded that the muscular changes in the disease under consideration are due to a disorder of peripheral motor neurons. The affected muscle fibers may either atrophy slowly and reach a very advanced degree of atrophy with preservation of their cross striations, or they may undergo degeneration at a relatively early stage. The occurrence of degenerative changes does not necessitate the assumption of factors other than denervation as responsible for the muscular changes. The more frequent occurrence of degenerative changes

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Titles marked with an asterisk (*) are abstracted.

in the muscle fibers and their nuclei in Charcot-Marie-Tooth atrophy than in other muscular atrophies due to disease of peripheral motor neurons may be explained by the longer duration of the disease, time being available for the late stages of the process to develop. Muscle biopsies on patients suspected of having the Charcot-Marie-Tooth type of atrophy may be of diagnostic value.

Neural Toxicity in Tuberculous Patients Treated with Isoniazid.—Gammon and associates describe a new syndrome of neural toxicity that they observed in tuberculous patients treated with isoniazid. The fully developed syndrome apparently has not previously been described, and no suggestion of it appeared in the animal studies. The patients all had advanced pulmonary tuberculosis and had received a large quantity of the drug. The authors examined 14 patients from a larger group of 46 with similar complaints observed in a series of 408 patients receiving the drug. Tingling or painful paresthesias of the feet and legs were followed by weakness or paralysis, with loss of deep reflexes first at the ankles and then the knees. The hands were affected in a few instances. The process was subacute and subsided promptly on withdrawal of the drug, unless it had progressed to a severe stage; in that case several weeks were required for even partial recovery. The dose which induced these signs varied from 4.5 to 13.5 mg. per kilogram of body weight and was in the range in which toxicity is to be expected. The neuropathy puts a limitation on therapy with higher doses. Since this paper was presented, peripheral neuropathy has been mentioned as a toxic side-effect of therapy with hydrazide derivatives of isonicotinic acid in another report, but no details of the cases were reported.

A.M.A. Arch. Surgery, Chicago

67:1-128 (July) 1953

*Clinical Analysis of Billroth I and Billroth II Subtotal Gastric Resections. H. G. Moore Jr., R. J. Schlosser, J. K. Stevenson and others.—p. 4.

Experimental Gastrojejunal Ulcers Produced by Reversing Duodenum. J. M. Hammer, F. Visscher and E. J. Hill.—p. 23.

*Bleeding Peptic Ulcer. H. C. Saltzstein, M. S. Mahlin and S. R. Scheinberg.—p. 29.

Peripheral Embolization Following Mitral Commissurotomy. F. Tropea Jr. and J. Entine.—p. 43.

Acute Pancreatitis Associated with Necrosis and Perforation of Common Bile Duct. J. Zaslow.—p. 47.

*Hemorrhagic Ascites and Hemothorax Associated with Benign Pancreatic Disease. E. B. Smith.—p. 52.

Postoperative Loss of Sugar in Urine Following Intravenous Infusion of Fructose (Levulose). J. A. Moncrief, K. B. Coldwater and R. Elman. —p. 57.

Small Bowel Obstruction: Complication of Combined Abdominoperineal Excision of Rectum. G. L. Watkins Jr.—p. 61.

Carcinoma of Stomach Following Gastroenterostomy for Duodenal Ulcer. L. A. Stirrett and J. M. Beal.—p. 63.

Acute Intussusception: Analysis of 116 Cases at St. Louis Children's Hospital. D. L. Thurston, J. Holowach and E. E. McCoy.—p. 68.

Radioiodine Tracer and Biopsy in Diagnosis and Treatment of Hyperthyroidism. C. F. Baumeister.—p. 80.

Biliary-Tract Surgery in Elderly Patients. K. B. Lawrence, K. Merrill Jr. and G. Arnold.—p. 92.

*Familial Pheochromocytoma: Report on Three Siblings with Bilateral Tumors. G. M. Roth, N. C. Hightower Jr., N. W. Barker and J. T. Priestley.—p. 100.

Cysts About the Pericardium. C. Davis Jr., J. Dorsey and E. Scanlon. —p. 110.

Clinical Analysis of Subtotal Gastric Resections.—Subtotal gastric resection as practiced today conforms to one of two general types, depending upon whether the duodenum or the jejunum is utilized for the reestablishment of gastrointestinal continuity. If the duodenum is utilized, the operation is known as a Billroth 1; if the jejunum is employed, the procedure is a Billroth 2, or one of its modifications. The material for this study includes all gastric resections, except total gastrectomies, performed in a Seattle hospital from Jan. 1, 1948, through March 31, 1952. The decision whether the reestablishment of continuity would be according to the Billroth 1 or the Billroth 2 technique depended on the preference of the surgeon. Many of the Billroth 2 operations might have been done as Billroth 1 procedures, if the operating surgeons had so preferred. The Billroth 1 resection was performed in 104 patients and the Billroth 2 resection in 135 patients. These two series were compared from the standpoint of age, sex, duration of history, indications for surgery, pathology, postoperative complications, and follow-up evaluation. A comparison was made also with similar studies made elsewhere. Data on extent of resection indicate that it is possible to do an adequate resection by the Billroth 1 method. The incidence of dumping for the two series is essentially the same. In 6.5% of the Billroth 1 procedures the results were considered poor, in contrast to 25% of the Billroth 2 procedures. The over-all mortality rate for the Billroth 1 series was 3.8%; 7.4% for the Billroth 2 group. In cases of peptic ulcer the mortality rates are 2.2 and 8.2% respectively. Postoperative body weight was better maintained in the Billroth 1 than in the Billroth 2 group. There were no recurrent ulcerations in the Billroth 1 series. There were three known and two possible recurrent ulcerations in the Billroth 2 series. The Billroth 1 operation can and should be employed oftener. At the authors' hospital, the Billroth 1 resection is now performed more frequently than the Billroth 2.

Bleeding Peptic Ulcer.—Saltzstein and associates analyze 402 cases of massive upper gastrointestinal hemorrhages observed at Harper Hospital in Detroit over a period of five years. There were 343 cases of peptic ulcer (278 duodenal, 53 gastric, and 12 marginal) and 59 cases of upper gastrointestinal bleeding. Ten per cent of the hemorrhages from peptic ulcer were severe; shock was prevented only by the administration of 500 cc. of blood every eight hours. Of the 343 patients 275 were treated medically and 68 were treated surgically. Four-fifths of those treated surgically bled mildly, but many had bled previously. Four deaths (5.9%) occurred in the surgically treated patients and 14 (5.1%) in the medically treated. Several of the deaths in the medically treated patients occurred in those with associated cardiovascular conditions. The anoxia of gastrointestinal hemorrhage may have precipitated cardiovascular accidents. Three of the 14 patients who died while under medical management died in shock of uncontrolled hemorrhage. Half of the 343 patients with bleeding peptic ulcer had hematemesis, and half had melena, but of the 18 who died 14 had hematemesis and 4 had melena. Pyloric obstruction did not increase the seriousness of the bleeding. Five of the 343 patients had associated perforation. The fatalities from bleeding gastric ulcer were three times as high as those from bleeding duodenal ulcers. About half of the fatalities occurred during the first episode of bleeding. The treatment of massive upper gastrointestinal hemorrhage consists of giving sufficient blood to prevent the ill effects of anoxia on the liver, the myocardium, and the brain. The decision to operate does not necessarily have to be made in 48 or 72 hours if the patient can be maintained without anoxia. Patients with repeated bleeding, in whom the blood pressure drops while they are under observation, should be operated on before leaving the hospital, because of the likelihood of sudden fatal hemorrhage occurring months afterward. Of the patients with acute hemorrhage from peptic ulcer, 10 to 15% have no ascertainable history of ulcer; this is especially true of older patients. Uncontrollable hemorrhage following resection frequently comes from the duodenal stump, may come from the anastomotic suture line, and sometimes may be relieved by manually evacuating large clots from the residual gastric stump. This may allow the stomach to contract sufficiently to arrest the bleeding.

Familial Pheochromocytoma.—This report is concerned with the diagnosis and successful removal of bilateral pheochromocytomas in two sisters and a brother. The first patient, an 18-year-old girl, was admitted to the Mayo Clinic with the chief complaint of blurring of vision. The family physician had found albumin in the urine and a blood pressure of 200/160 mm. Hg. Rest in bed, sedation, and low-salt diet were without benefit. Approximately one week before admission to the clinic, the patient had noted dull frontal headache and occasional dull pain in the right costovertebral angle. The tentative diagnosis was malignant hypertension. Careful questioning revealed that for several months the patient had been aware of tachycardia and that for the past five years she had experienced episodes of palpitation followed by generalized weakness of two to three days' duration. Four months before admission her blood pressure had been recorded as normal.

In view of the positive results of tests for pheochromocytoma, the relatively short clinical history of severe hypertension in a young woman, and the marked fluctuations in blood pressure, exploratory operation was deemed advisable. A multilobulated tumor was found on each adrenal and was removed. One year after operation her blood pressure was 110/68 mm. Hg. She appeared to be in excellent health and had had no recurrence of symptoms. A histamine test for pheochromocytoma at this time gave negative results. The patient stated that her sister had high blood pressure. Familial occurrence of pheochromocytoma was suspected. This suspicion proved to be true; bilateral pheochromocytomas were subsequently removed from the 28-year-old sister and from the 25-year-old brother. It was also ascertained that the father of these three patients had died at the age of 42 from a cerebrovascular accident with a history of attacks suggestive of pheochromocytoma. This is probably the first report of the diagnosis and successful removal of bilateral pheochromocytomas from three members of the same family and of the removal of bilateral pheochromocytomas at a single operation. The authors state that Calkins and Howard diagnosed bilateral pheochromocytomas in 1947, and pointed out the familial incidence, one of their patients being the niece of the other.

Alabama State Medical Assn. Journal, Montgomery

23:1-34 (July) 1953

Surgical Treatment of Pain of Malignancy. W. B. Patton.—p. 1.
Gynecologic Cancer. W. N. Jones.—p. 4.
Lymphoblastoma. W. D. Anderson.—p. 6.
Malignancies in Childhood: Report of Case of Rhabdomyosarcoma. S. F. Davis and K. Hare.—p. 10.
Carcinoma of Larynx. H. S. J. Walker Jr.—p. 14.

American Journal of Clinical Pathology, Baltimore

23:623-730 (July) 1953

Clinical Assay of Blood Coagulation Factors. F. D. Mann.—p. 623.
Turbidimetric Determination of Modified Gelatin in Biolcgic Materials. C. J. Rogers.—p. 638.
Measurement of Serum Cholinesterase Activity by Photometric Indicator Method Together with Study of Influence of Sex and Race. J. G. Reinhold, L. G. Tourigny and V. L. Yonan.—p. 645.
Paper Chromatography of Urinary Metabolites of Pentobarbital. E. J. Algeri and A. J. McBay.—p. 654.
Blood Mediums for Cultivation of Mycobacterium Tuberculosis: V. Results with Agar-Agar Basal Medium and Varying Concentrations of Blood, Glycerine and Penicillin. M. S. Tarshis.—p. 661.
Human Plasma and Blood Agar for Cultivation of Tubercle Bacilli. M. E. Clark.—p. 671.

American Journal of Medicine, New York

15:1-140 (July) 1953

*Diagnosis of Mitral Regurgitation: An Evaluation of Clinical Criteria, Fluoroscopy, Phonocardiogram, Auricular Esophagogram and Electrokymogram. W. H. Abelmann, L. B. Ellis and D. E. Harken.—p. 5.
Early Changes of Mitral Valve Function in Rheumatic Heart Disease: Clinical, Phonocardiographic and Electrokymographic Study. A. A. Luisada and G. Magri.—p. 25.
Quantitative Effects of Medical and Surgical Treatment of Mitral Stenosis on Exercise Tolerance. R. A. Bruce and D. L. Rodgers.—p. 35.
Certain Abnormal Circulatory Dynamics of Mitral Stenosis Associated with Major Degree of Regurgitation. P. T. Kuo and T. G. Schnabel Jr.—p. 50.
Ventilatory Studies in Mitral Stenosis: Comparison with Findings in Primary Pulmonary Disease. N. R. Frank, D. W. Cugell, E. A. Gaensler and L. B. Ellis.—p. 60.
Occlusive Auricular Thrombi. J. B. Wallach, L. Lukash and A. A. Angrist.—p. 77.

Diagnosis of Mitral Regurgitation.—Abelmann and associates point out that criteria for the diagnosis of mitral regurgitation are undergoing a reexamination, because, while mild regurgitation may not affect either the operative risk or the prognosis of mitral valvuloplasty and may even be partially corrected by valvuloplasty, marked regurgitation affects the prognosis unfavorably and is a contraindication to the conventional finger fracture valvuloplasty or commissurotomy. They review the clinical diagnostic findings in a group of 63 patients with rheumatic mitral stenosis who underwent mitral valvuloplasty. Fatigability, apical systolic murmur, heart chamber enlargement, systolic expansion of the left auricle on fluoroscopy, auricular border electrokymogram and esophagogram, as well as the relationship of the timing of heart sounds in respect to cycle length as shown by the phonocardiogram, were evaluated as criteria of mitral regurgitation in patients with rheumatic mitral disease. Mitral stenosis was found to be accompanied by insufficiency oftener than is generally held and clinically suspected. Marked mitral regurgitation may exist with but a faint apical systolic murmur, and, conversely, tight mitral stenosis may be accompanied by a loud apical systolic murmur. In general, however, a systolic murmur of grade 3 or louder at the apex indicates moderate to marked mitral regurgitation. By itself, a loud apical systolic murmur does not contraindicate valvuloplasty for stenosis. Severe fatigability and weakness overshadowing dyspnea is often associated with marked mitral regurgitation but may be found in patients with predominantly mitral stenosis and may be absent in marked mitral regurgitation. Left ventricular enlargement in the absence of aortic valvular disease, hypertension, or myocardial failure speaks for mitral regurgitation, although marked stenosis may occasionally coexist. Aneurysmal dilatation of the left auricle indicates marked mitral regurgitation. Systolic expansion when seen in the posteroanterior projection is presumptive evidence of marked mitral regurgitation. In the oblique position this sign may be present in tight mitral stenosis and it may be absent in marked mitral regurgitation. The auricular esophagogram did not improve clinical estimation of mitral regurgitation. Phonocardiographic records did not appear sufficiently consistent to be of diagnostic value in mitral regurgitation. The authors discuss the possible hemodynamic and technical causes of the difficulties encountered in correlating systolic expansion of the left auricle as assessed by fluoroscopy, esophagograms, and electrokymograms with the degree of mitral regurgitation. They reassert the feasibility of correct preoperative diagnosis of marked mitral regurgitation in most cases of mitral valvular disease under consideration for valvuloplasty, but no single criterion may be relied upon; consideration of all clinical findings usually allows correct assessment.

American Journal of Pathology, Ann Arbor, Mich.

29:369-618 (May-June) 1953

Myocarditis in Association with Varicella. D. B. Hackel.—p. 369.
Histopathogenesis of Cortisone-Altered Experimental Poliomyelitis: Observations on Syrian Hamster Inoculated Intracerebrally with Strain MEF$_1$. S. M. Aronson and G. Shwartzman.—p. 381.
*Relation of Heretofore Unreported Lesions to Pathogenesis of Herpes Zoster. W. J. Cheatham.—p. 401.
Panmyelosis and Chronic Granulocytic Leukemia. B. Black-Schaffer and L. D. Stoddard.—p. 413.
Natural History of Sarcoid Granuloma. H. J. Barrie and A. Bogach.—p. 451.
Clinicopathologic Study of "Mikulicz's Disease." W. S. Morgan and B. Castleman.—p. 471.
Lymph Node Structure in Patients with Cancer of Breast. M. M. Black, S. Kerpe and D. Speer.—p. 505.
Histochemical Study of Distribution and Fate of Dextran in Tissues of Mouse. R. W. Mowry and R. C. Millican.—p. 523.
Experimental Investigation of Changes in Axis Cylinders of Peripheral Nerves Following Local Cold Injury. W. J. Pirozynski and D. R. Webster.—p. 547.
Chorioepithelioma of Lung in Female Infant Seven Months Old. S. Kay and W. G. Reed.—p. 555.

Pathogenesis of Herpes Zoster.—The patient reported by Cheatham was a woman, aged 50, who had been given several courses of roentgen irradiation for Hodgkin's disease confirmed by biopsy of an axillary lymph node. Later, when periumbilical pain developed, she was treated with nitrogen mustard. A vesicular rash appeared accompanied by high fever. She died on the 18th day after the onset of pain. Microscopic examination of the vesicals revealed classical lesions of herpes zoster. Intranuclear inclusion bodies were demonstrated within the esophageal mucosa, myenteric plexus of the stomach, dorsal root ganglia, and a sympathetic ganglion at the level of the affected dorsal root ganglia. Similar inclusions were seen within cells in lesions of the pancreas, adrenals, and one ovary, associated with focal necrosis. Such lesions have not been previously described in zoster. It is postulated that the virus entered the body via the sympathetic nerves of the esophagus and migrated by the sympathetic nerves to the dorsal root ganglia, eventually reaching the skin by centrifugal spread along the respective peripheral nerves. The disseminated visceral and cutaneous lesions resemble those described in varicella. The viruses of herpes zoster and varicella are probably identical. In varicella the lesions probably result from a hematogenous spread in a nonimmune individual, while in typical zoster they are tentatively considered to result from neurogenous spread in a person with humoral immunity. The respiratory and gastrointestinal tracts probably serve as portals of entry in most cases of herpes zoster. An incidental finding in this case was the apparently inconsequential growth of Histoplasma capsulatum in one adrenal gland.

American Journal of Psychiatry, New York

110:1-80 (July) 1953

Psychiatry and Citizenship. D. E. Cameron.—p. 1.
Function in Psychiatry. C. P. Oberndorf.—p. 13.
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Comparative Epilepsy of Amnestic Syndrome in Various Organic Conditions. V. A. Kral and H. B. Durost.—p. 41.
An Outline and Bibliography for Seminar in Clinical Psychology for Resident Physicians in Psychiatry. M. Mercer and A. O. Hecker. —p. 48.
Mental Health Among Slave Population on Southern Plantations. W. D. Postell.—p. 52.
Fluctuations of Temporal Lobe Electroencephalographic Abnormality During Psychic Function. M. Ostow.—p. 55.
Psychological Implications of "Activating System." L. Linn.—p. 61.

American Journal of Public Health, New York

43:821-960 (July) 1953. **Partial Index**

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Observations on Effectiveness of Various Scarlet Fever Antigens Used in Combination with Other Antigens in Multiple Antigen Preparations. V. K. Volk, F. H. Top and W. E. Bunney.—p. 833.
Recent Studies on Nonspecific Urethritis. B. M. Wagner, W. H. Morse and D. M Kuhns.—p. 853.
Observations on Epidemiological Spread of Antibiotic-Resistant Staphylococci, with Measurements of Changes in Sensitivity to Penicillin and Aureomycin. H. F. Dowling, M. H. Lepper and G. G. Jackson. —p. 860.
Premarital Examination Laws—Are They Worth While? California Experience with Two Million Examinations. P. K. Condit and A. F. Brewer.—p. 880.
Group Discussion of Parents of Handicapped Children from Health Education Standpoint. S. Milliken.—p. 900.
Pilot Study in Home Care of Terminal Cancer Patients. M. C. J. Pfeiffer and E. M. Lemon.—p. 909.

Am. J. Syphilis, Gonorrhea and Ven. Dis., St. Louis

37:301-400 (July) 1953

Studies in Cardiovascular Syphilis: III. Natural History of Syphilitic Aortic Insufficiency. B. Webster, C. Rich Jr., P. M. Densen and others.—p. 301.
Comparison of Results Obtained by Treponema Pallidum Immobilization Test and Kahn Verification Test. E. R. Harrell Jr.—p. 330.
Comparison of Neurath and Treponema Pallidum Immobilization Procedures. A. N. Roy, J. H. Hill, J. L. Gowdey and others.—p. 338.
Observations on Optimal Zone Reaction and Seroresistance. G. R. Cannefax.—p. 344.
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Variations in Stability of Sexual Relations as Explanation of Differences in Spread of Syphilis and Gonorrhea. P. V. Marcussen.—p. 355.
Community Organization for Mass Testing Programs. W. A. Mason. —p. 362.
Attempt to Produce Penicillin-Resistant Strain of Treponema Pallidum in Experimental Syphilis. T. F. Probey.—p. 369.
*Results of Treatment of Early Syphilis with Single Injection of Procaine Penicillin G in Oil and Aluminum Monostearate. E. W. Thomas, C. R. Rein, S. E. Landy and D. K. Kitchen.—p. 374.
Treatment of Gonorrhea with Erythromycin. G. R. Gable, M. J. Romansky and S. R. Taggart.—p. 377.
Susceptibilities of Kazan, Nichols, and Reiter Strains of Treponema and Pleuropneumonia-Like Organisms to Antibiotic Erythromycin (Ilotycin). R. Keller and H. E. Morton.—p. 379.
Comparison of Terramycin, Streptomycin, and Penicillin in Abortive Treatment of Nonspecific Urethritis. R. R. Willcox.—p. 383.

Treatment of Early Syphilis.—In May, 1948, a study was initiated on the efficacy of a single treatment with procaine penicillin in oil containing 2% aluminum monostearate (also known as PAM) in early syphilis at Bellevue Hospital. To date, 174 patients have been treated and have been followed clinically and serologically for 9 to 60 months following completion of therapy. The purpose of this study was to determine what could be accomplished with a single injection, since such schedules of therapy are of special value in those underprivileged countries where the majority of patients must be treated in the shortest period of time and on an ambulatory basis in rural clinics. Originally, the authors administered a single injection of 1,200,000 or 2,400,000 units of the penicillin preparation, but since June, 1950, they have been treating alternate cases of early syphilis with a single treatment of 2,400,000 or 4,800,000 units. It was found that a single injection of 1,200,000 units of procaine penicillin in oil with 2% aluminum monostearate is a satisfactory procedure for seronegative and seropositive primary syphilis. If a single treatment for secondary syphilis is used, it seems advisable to give 2,400,000 units of procaine penicillin in oil with 2% aluminum monostearate.

Anesthesiology, Philadelphia

14:321-424 (July) 1953

Local Anesthetic Effects of Sodium Amytal®: (Preliminary Report). F. Schiller.—p. 321.
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Anesthesia. XXXIX: In Vitro Studies of Influence on Adenosine Triphosphate (ATP) Dephosphorylation by Central Depressants and Stimulants. G. Lu and J. C. Krantz Jr.—p. 348.
Reactions in Man from Infusion with Dextran. A. B. Tarrow and E. J. Pulaski.—p. 359.
Controlled Paralysis of Skeletal Muscle. A. L. Wnuck, S. Norton, C. H. Ellis and E. J. de Beer.—p. 367.
Cortisone Problems Involving Anesthesia. J. S. Lundy.—p. 376.
Use of Succinylcholine to Facilitate Endotracheal Intubation. L. J. Hampton, D. M. Little Jr. and E. M. Fuller.—p. 382.
Comparative Incidence of Postlumbar Puncture Headache Following Spinal Anesthesia Administered Through 20 and 24 Gauge Needles. L. M. Harris and M. H. Harmel.—p. 390.
Malleable Cone-Tip Needle for Fractional Spinal Anesthesia. B. E. Cappe and E. V. Deutsch.—p. 398.
Analysis of Gases in Blood with Mass Spectrometer: I. Introduction. A. Faulconer Jr.—p. 405.

Annals of Surgery, Philadelphia

138:1-144 (July) 1953. **Partial Index**

*Appraisal of Surgical Treatment of Gastric Malignancy. P. A. Kirschner and J. H. Garlock.—p. 1.
Malignant Disease of Stomach in Young Adults. N. J. Bellegie and D. C. Dahlin.—p. 7.
Pancreatic Cysts—Surgical Treatment Especially by Use of Internal Drainage, with Report on Six Cases. A. L. Zaoussis.—p. 13.
External Sphincterotomy for Pancreatitis. L. Gillette.—p. 24.
*Relationship of Age of Patient to Natural History and Prognosis of Carcinoma of the Thyroid. G. Crile Jr. and J. B. Hazard.—p. 33.
Antecedent Factors in Cancer of Breast. E. F. Lewison and L. W. Allen. —p. 39.
Mediastinal Foreign Bodies; Their Treatment: Analysis of 32 Cases. R. J. Simpson.—p. 51.
Frostbite Resulting in Amputations. T. J. Canty and A. G. Sharf.—p. 65.
Experimental Vascular Grafts: I. Effects of Dicetyl Phosphate on Venous Autografts Implanted in Thoracic Aorta of Growing Pigs: Preliminary Report. E. A. Kanar, E. J. Schmitz, L. R. Sauvage and others.—p. 73.
Intra-Abdominal Hernias Due to Developmental and Rotational Anomalies. L. M. Zimmerman and H. Laufman.—p. 82.
Adenomas of Colon and Rectum: Diagnosis and Treatment in Relation to Cancer Prevention. P. C. Morton.—p. 92.
Reconstruction of Benign Non-Tuberculous Strictures of Trachea. W. C. Sealy, R. L. A. Keeley, J. P. Collins and C. R. Stephen.—p. 99.
Benign Neurogenic Tumors of Chest Wall. L. A. Hochberg and L. M. Rivkin.—p. 104.
Common Duct Exploration and Drainage for Obstructive Neonatal Jaundice. T. C. Moore.—p. 111.
Resection of Sacrum for Benign Giant Cell Tumor: Case Report. R. P. Hays.—p. 115.
Congenital External Torsion of Tibiae. J. Levine, A. Kenin and C. Glassman.—p. 121.
Pancreatic Heterotopia Causing Post-Cholecystectomy Symptoms and Obstructive Jaundice. H. Barber and W. H. Barber.—p. 124.

Surgical Treatment of Gastric Malignancy.—Three basic surgical methods are utilized in the treatment of gastric malignancy: distal subtotal gastrectomy, proximal subtotal gastrectomy, and total gastrectomy. Kirschner and Garlock report results with distal subtotal and total gastrectomy. Among 283 patients operated on for gastric malignancy during the 15 year period from 1937 to 1951, 161 were subjected to the subtotal and 24 to total gastrectomy. Resection was possible in about two-thirds of their patients. Gastroenterostomy was performed in eight patients, local excision in two, and laparotomy in 88. There were 12 surgical deaths among the 88 patients undergoing subtotal gastrectomy more than five years ago. Of the 76 who survived the operation, 18 were alive at the time of this report. Of the 24 patients who underwent total gastrectomy between 1940 and 1951, four died during the operation. Although the percentage of patients with lymph node involvement was about the same in the two groups (undergoing subtotal or total gastrectomy), the authors emphasize that there is not a single long-term survivor among those subjected to total gastrectomy. One patient lived for three years and died of the gastric cancer. There is considerable speculation concerning the advisability of increasing the scope of gastric resection to the point of total removal. The biological behavior of the growth itself and the response of the host to its activity may be more important in the long-term survival. Reports indicate that the large number of total gastrectomies has been followed by increasing morbidity in term of impairment of digestive function, anemia, malnutrition, stricture at the anastomosis, diarrhea, and loss of earning power. The vast majority of these survivors become emaciated digestive cripples. The concept of variable biological behavior in cancer is finding wider acceptance, and while it should not lead to fatalistic attitude in the approach to the management, the authors feel that subtotal gastrectomy is the procedure of choice for malignant lesions in the distal portion of the stomach.

Importance of Age of Patient for Prognosis of Carcinoma of Thyroid.—In the classification which Crile and Hazard employ, cancers of the thyroid are divided into the papillary and nonpapillary tumors, each of which has a characteristic natural history and clinical behavior. In some tumors, which behave clinically like papillary carcinoma, sparsity of papillary areas may make it difficult to classify thyroid cancer on the basis of morphology alone. Even if alveolar areas predominate in papillary carcinomas, these tumors will follow the behavior pattern of the papillary type of carcinoma and the patient's prognosis will be good. The nonpapillary type of thyroid cancer follows the age distribution of cancers elsewhere, occurs in older age groups, and usually is a highly malignant tumor. If areas of anaplasia are present, the tumor behaves like a highly malignant nonpapillary cancer, even if papillary areas are present. Since alveolar variants of papillary carcinomas may resemble nonpapillary adenocarcinoma of much higher malignancy, the classification of carcinoma of the thyroid should take account of the clinical as well as the morphological features. One of the most important and most neglected prognostic features of a cancer of the thyroid is the age at which it occurs. In 15 carcinomas of the thyroid that the authors observed in patients under 40 years of age, all were classified as papillary types of carcinoma and none developed recurrence or metastasis from 3 to 15 years after operation. In a larger series of 105 patients with thyroid carcinoma, all seen in the past five years, there were 43 patients under 40 years of age. Forty-one of these 43 patients had carcinomas of the papillary type and two had angioinvasive adenomas, which are considered to be of low malignancy. The vast majority of the cancers of the thyroid occurring in patients under 40 years of age behave like papillary carcinomas, regardless of whether alveolar or papillary elements predominate. The rare nonpapillary type of cancer that occurs in persons under the age of 40 is usually an angioinvasive adenoma with a low degree of malignancy. The prognosis in this age group is almost uniformly good if an adequate operation is performed. The surgeon need not be too alarmed if the tumor of a young patient is predominantly adenocarcinoma or alveolar carcinoma; he can assume that the outlook is as good as if the morphological arrangement were predominantly papillary.

Antibiotics and Chemotherapy, Washington, D. C.

3:659-764 (July) 1953. Partial Index

Chemistry of Erythromycin: I. Acid Degradation Products. R. K. Clark Jr.—p. 663.
Rationale of Routine Antibiotic Sensitivity Determinations. H. E. Lind.—p. 672.
Study of Possible Interference of Chloramphenicol with Penicillin in Acute Streptococcal Pharyngitis. S. H. Walker.—p. 677.
Factors in Proper Selection of Antibiotic Programs for Cure of Refractory Case of Subacute Bacterial Endocarditis. L. Loewe, C. Cohen and H. B. Eiber.—p. 681.
Effect of Cortisone on Fixation and Neutralization of Diphtheria Antitoxin. H. Brainerd and M. Scaparone.—p. 693.
*Stability Studies of Penicillin Products: VI. Procaine Penicillin and Buffered Crystalline Penicillin for Aqueous Injection. F. H. Buckwalter and S. Duda.—p. 698.
Laboratory Studies of Combinations of Several Antimicrobic Agents. H. M. Powell, C. G. Culbertson, W. S. Boniece and others.—p. 701.

Stability of Penicillin Products for Aqueous Injection.—Procaine penicillin G and buffered crystalline penicillin G (sodium or potassium) for aqueous injection is marketed as a dry powder that is reconstituted with a suitable diluent just prior to use. The usual concentration for this product is 300,000 units of procaine penicillin G and 100,000 units of buffered crystalline penicillin G (sodium or potassium) per milliliter. Buckwalter and Duda report observations on its stability at normal and accelerated temperatures for long periods of time. Random samples of finished 5 or 10 dose vials were taken from each production batch and stored under various temperature conditions. Accumulated data indicate the excellent stability of procaine penicillin G and buffered crystalline penicillin G for aqueous injection at 52 to 56 C (125.6 to 132.8 F) for 12 to 18 months and at 22 to 28 C (71.6 to 82.4 F) for two to four years. After two to four years at 22 to 28 C, the maximum loss was 7.2%. In the reconstituted state, this product is stable for one to two weeks at 5 to 10 C. Losses of less than 10% in penicillin activity are regarded as insignificant and of little consequence in judging the usability of a penicillin product. It appears that this product can be stored for several years, even in tropical countries, without any serious decomposition of the penicillin.

Bulletin of the Los Angeles Neurological Society

18:59-116 (June) 1953

*Cerebral Anoxia and Convulsive Disorders: Observations on Effects of Oxygen Want as Significant Factor in Causation of Epilepsy. C. B. Courville and J. M. Nielsen.—p. 59.
Spontaneous Cerebrospinal Rhinorrhea. R. W. Rand.—p. 74.
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Acute Pyogenic Spinal Subdural Abscess: Review of Literature and Report of Case. K. H. Abbott.—p. 91.
Relationship of Cranial to Subjacent Cerebral Tumors: Report of Case of Fibrosarcoma Eroding Frontal Bone Associated with an Underlying Glioblastoma Multiforme. C. B. Courville and H. A. Edmondson.—p. 103.
Long Survival with Hemiplegia Incident to Paranatal Anoxia: Case of Cerebral Spastic State with Death from Cardiac Failure at 80 Years of Age. C. B. Courville.—p. 110.

Cerebral Anoxia and the Causation of Epilepsy.—Courville and Nielsen enumerate many close associations between cerebral anoxia and the occurrence of convulsive seizures. They point out a number of facets of the problem that suggest that many of the group of so-called idiopathic or essential epileptics have, during the birth process, been subjected to minor injuries, and perhaps overlooked episodes of neonatal anoxia. Convulsive seizures are shown to be one of the most characteristic of all postanoxic symptoms as shown in both experimental and human instances of this condition. Cerebral anoxia is accompanied by dysrhythmias that are indistinguishable from those of the so-called idiopathic form of seizure. The actual cellular mechanism is suggested by the action of a peculiar form of anoxia produced by cyanides, a metabolic poison which apparently produces some change in the protoplasm of the cell and makes it impossible for it to use oxygen. Convulsive seizures, as one of the postanoxial manifestations, occur as the result of some interference with oxygenation within the nerve cells. A disturbance of internal respiration may be the ultimate exciting factor in the production of a seizure, although the causes of this disruption may be many.

Hyperkinetic motor phenomena, including grand mal seizures, have been provoked by experimental neonatal anoxia. The frequent association of convulsions with other manifestations of asphyxia at birth also points in the same direction. This conclusion is further supported by the observation that the histological characteristics of epileptogenic lesions removed at operation present signs of anoxemic etiology. The final argument, on a statistical basis, is that first-born children, also most likely to suffer from the effects of neonatal anoxia, are apparently more apt to develop convulsive seizures than are subsequent siblings.

Cancer, Philadelphia

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Coeliac Axis in Expansion of Operation for Gastric Carcinoma. L. H. Appleby.—p. 704.
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Surgery of Hepatic Neoplasms with Special Reference to Secondary Malignant Neoplasms. A. Brunschwig.—p. 725.
Focal Cirrhosis of Liver: Its Relation to So-Called Hamartoma (Adenoma, Benign Hepatoma). E. J. Benz and A. H. Baggenstoss.—p. 743.
*Five Year Survival Rate for Gastric Cancer: Statistical Study from Syracuse Medical Center. A. B. Raffl and G. E. Kelley.—p. 756.
Observations on 10 Patients with Gastrointestinal Cancer During Course of Chemotherapy with Dichloroaminopterin. G. C. Branche Jr., V. Downing, F. Homburger and others.—p. 760.
New Approach to Extended Radical Vaginal Hysterectomy for Cancer of Cervix. S. Mitra.—p. 765.
Endometrium Associated with Cervical Cancer. H. Speert.—p. 771.
Spontaneous Regression of Case of Myosarcoma. D. W. Penner.—p. 776.
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Granular Cell Myoblastoma: Two Unusual Cases. E. S. Crawford and M. E. DeBakey.—p. 786.
Early Granular-Cell Myoblastoma Confined Within Small Peripheral Myelinated Nerve. R. Bangle Jr.—p. 790.
Diffuse Fibrous Mesothelioma of Pericardium: Report of Case and Review of Literature. C. J. Dawe, D. A. Wood and S. Mitchell. —p. 794.
Growth of Human Epidermoid Carcinoma Cells in Tissue Culture. C. M. Southam and P. J. Goettler.—p. 809.
Effect of β-2-Thienyl-dl-Alanine on Growth of Sarcoma T241 in C57 Black Mice. J. A. Jacquez, C. C. Stock and R. K. Barclay.—p. 828.

Breast Cancer After Hormone Therapy.—The 18 patients presented in this report were selected from a total of 27 on whom mastectomies had been performed after hormone therapy. Nine were eliminated because they had received roentgen ray therapy or came from other hospitals with insufficient clinical information. Four of the 18 were considered operable when first examined. They were given diethylstilbestrol (Stilbestrol) for periods of 5, 10, 20, and 25 days prior to operation in an attempt to observe early regressive changes. The tumors of the remaining 14 patients were incurable by operation at the onset of therapy. On steroid-hormone treatment in these cases, there was demonstrated regression by healing and epithelization of ulcers; softening, mobilization, and disappearance of deep-seated masses; shrinkage of protuberant tumors; and the disappearance or reduction in size of skin nodules and enlarged lymph nodes. The pathological aspects of the phases of regression were investigated. Regression was preceded by simultaneous loosening of the stroma and necrobiosis of the malignant cells. Subsequently collagen reformed in the regressing areas and produced tumor-free scars of increased density. These alterations resulted in the clinical impression of softening, shrinkage, and mobilization of the tumor. Regression ranged from partial alterations in limited areas to almost complete fibrosis of a primary tumor and its lymph node metastases. Similar changes were observed in tumors of untreated patients in the same age group, but the degree of change was nowhere near that observed in the hormone-treated tumors. It appears that a preexistent reactive response to tumor had been further stimulated by the hormones. There is also visual proof that some malignant cells, presumably the source of later reactivations, survive even in extensively regressed tumors, and that this survival is dependent in some degree on the location of the cells within ducts with hyperplastic elastica, lymphatics, and densely sclerotic areas. The clinical impression that slowly progressing tumors respond best to treatment is confirmed in the finding that medium and low grade carcinomas tend to show better responses. Among the primary carcinomas, those characterized by abundant sclerosis and periductal elastic tissue hyperplasia are particularly susceptible to hormone-induced regression. Similarly constituted tumors failed to regress equally, indicating that the morphology of the stroma of the tumor was not the sole determinant in its response to the hormones. It appears that these regressions were in part the result of an unusual hormonal stimulation of a natural process of repair.

Five Year Survival Rate for Gastric Cancer.—Raffl and Kelley base their report on patients admitted to two of the hospitals of the Syracuse Medical Center during the years 1937 to 1951 with the diagnosis of cancer of the stomach. The mean age of these patients was 63.1 years. The disease predominated in the older age groups and in men; the male to female sex ratio was 2:1. Weight loss, pain, vomiting, anorexia, and weakness were the five commonest symptoms with an average duration of 8.5 months before hospitalization. Gastric analysis showed achlorhydria in 70% of the cases; 29% showed hypochlorhydria and only 1%, hyperchlorhydria. Roentgen examination proved helpful in diagnosis, providing a correct diagnosis of gastric cancer in 77% and indicating other gastric abnormalities in 17%, a total of 94%. The operability rate of those admitted with a diagnosis of carcinoma of the stomach was 76%. Of the patients operated on, 47% were given a curative resection (36% of the total) with a mortality of 14%. Palliative surgery provided little relief and was accompanied by a high mortality. Of those undergoing resection only three lived five years without recurrence of their carcinoma; this gives a five year survival rate of 6.6%. The over-all five year survival rate was 2% for all patients admitted to the hospital with a diagnosis of carcinoma of the stomach. The authors feel that in their hands, at least, the results of subtotal resections for carcinoma of the stomach have been very discouraging.

Circulation, New York

7:1-160 (July) 1953

*Study of Usefulness and Limitations of Electrical Countershock, Cardiac Massage, Epinephrine and Procaine in Cardiac Resuscitation from Ventricular Fibrillation. R. Wégria, C. W. Frank, H-H. Wang and others.—p. 1.
*Syndrome of Patent Ductus Arteriosus with Pulmonary Hypertension. H. Hultgren, A. Selzer, A. Purdy and others.—p. 15.
Aging Processes in Arterial and Venous Systems of Lower Extremities. M. D. Pareira, F. P. Handler and H. T. Blumenthal.—p. 36.
Studies Made by Simulating Systole at Necropsy: II. Experiments on Relation of Cardiac and Peripheral Factors to Genesis of Pulse Wave and Ballistocardiogram. I. Starr, T. G. Schnabel Jr. and R. L. Mayock —p. 44.
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Measurement of Vasoconstrictor Tone in Extremities in Hypertension. H. J. Kowalski, S. W. Hoobler, S. D. Malton and R. H. Lyons.—p. 82.
Effect of Priscoline on Clearance of Radiosodium from Muscle and Skin of Man in Normal and Diseased Limbs. J. Freund, L. H. Wisham and R. S. Yalow.—p. 89.
Effect of Frequency Response of Electrocardiographs on Form of Electrocardiograms and Vectorcardiograms. A. J. Kerwin.—p. 98.

Cardiac Resuscitation from Ventricular Fibrillation.—Ventricular fibrillation may be caused by coronary occlusion, electrocution, digitalis and digitalis-like drugs, chloroform, chloroform and epinephrine and other compounds of epinephrine, mechanical, chemical and thermal trauma, and interventions, particularly those involving the thorax and the heart. It may occur as an agonal event. In some species of mammals, such as the cat, ventricular fibrillation may stop spontaneously; in dogs and in human beings fibrillation is not spontaneously reversible. It can be stopped by various procedures and drugs. The efficacy of electrical countershock, cardiac massage, epinephrine, and procaine in stopping electrically induced ventricular fibrillation and restoring a competent ventricular contraction was studied in 75 anesthetized dogs. It was found that countershock is a reliable means of stopping fibrillation. However, it must be preceded by cardiac massage if not applied promptly after initiation of fibrillation. Epinephrine helps restore a competent ventricular contraction once fibrillation has been stopped by countershock, but it increases the incidence of recurrence of fibrillation. The doses of procaine that constitute a reliable means of stopping fibrillation depress the rhythmicity of the heart to such an extent that the cessation of fibrillation is followed by prolonged periods of cardiac standstill.

Patent Ductus Arteriosus with Pulmonary Hypertension.—Hultgren and associates report on eight cases of patent ductus arteriosus associated with pulmonary hypertension. Catheterization was done in six of these and autopsy in three. Four of the patients had evidence of right to left or reversed shunt through the ductus, and three of these presented the clinical picture of chronic cyanotic congenital heart disease. Four patients had no evidence of a right to left shunt, but presented an atypical clinical picture with absence of the characteristic continuous murmur and evidence of enlargement of the right ventricle. Two of these patients improved greatly following ligation of the ductus. This study suggests that the basis of this syndrome is an elevation of the anatomic resistance of the pulmonary vascular bed with a resultant increase in pulmonary artery pressure. The cause of this increased resistance is not apparent, but thrombosis with recanalization, and in one instance a diffuse arteritis, have been demonstrated. Clinical evidence suggests that in some cases the disease has been present since birth. Surgery seems indicated in those cases in which a right to left shunt is not present, but ligation may be dangerous or fatal in instances where a right to left or "reversed" shunt is present. The most important single diagnostic study that will detect the presence of a ductus with a reversed shunt consists of the determination of the oxygen content of simultaneously drawn blood samples from the right brachial and femoral artery at rest and during exercise. Cardiac catheterization is necessary to detect accurately the "atypical" ductus without a right to left shunt, which may be erroneously diagnosed clinically as an atrial septal defect with pulmonary hypertension or "primary" pulmonary hypertension.

Delaware State Medical Journal, Wilmington

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Gastroenterology, Baltimore

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Georgia Medical Association Journal, Atlanta

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Illinois Medical Journal, Chicago

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Rose Thorn Penetrating Cornea into Anterior Chamber. T. D. Allen and E. A. Pushkin.—p. 6.

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*Discography in Diagnosis of Herniation of Lower Lumbar Intervertebral Discs. J. J. Davies and E. C. Peirce II.—p. 118.
Use of Reichstein's Substance "S" in Treatment of Cancer. L. River, J. Silverstein and E. Dolehide.—p. 126.
Report on Visual Screening Program in Public Elementary Schools of Oak Park (Illinois) for 1950-51. P. Good and H. Holmes.—p. 128.
Surgical Management of Cutaneous Tumors. W. T. Shaffer.—p. 136.

Discography in Diagnosis of Herniation of Intervertebral Disks.—Davies and Peirce show that an absorbable contrast medium may be injected to outline the nucleus pulposus following insertion of a fine lumbar puncture needle through the posterior annulus fibrosus in any of the three lower lumbar spaces. This procedure is called discography. It makes possible the demonstration of various pathological conditions of the intervertebral disks, especially herniation. The technique is described, and the results of 28 discogram attempts in 23 patients are recorded. In five patients the results were unsatisfactory in one or two interspaces. In all of these a repeat examination was satisfactory. A total of 30 ruptured disks were found in 20 patients; two patients showed no evidence of disk rupture. Of the 20 patients with ruptured disks, 12 were treated by exploration of two or more interspaces with excision of any grossly abnormal disks, and eight were treated conservatively without operation. In every case coming to operation the surgical findings coincided with discography for both normal and ruptured disks. There were no serious complications. Discography has not gained the recognition it deserves. The authors consider it probably more accurate than myelography in the verification and localization of disk herniations.

Journal of Allergy, St. Louis

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Microscopic Observations of Pulmonary Arterioles, Capillaries, and Venules of Living Mammals Before and During Anaphylaxis. W. S. Burrage and J. W. Irwin.—p. 289.
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*Effect of Stress Factors on Asthma Induced in Guinea Pigs by Aerosolized Antigens. S. M. Feinberg, S. Malkiel and F. C. McIntire.—p. 302.
Timed Vital Capacity in Bronchial Asthma. M. J. Dulfano, J. A. Herschfus and M. S. Segal.—p. 309.
Temporal and Quantitative Factors Influencing Development of Experimental Asthma in Guinea Pig. B. Ratner.—p. 316.
Piromen Therapy in Asthma: Functional and Clinical Studies. I. A. Fond.—p. 326.
Studies on Sensitivity of Mice to Histamine Following Injection of Hemophilus Pertussis: I. Effect of Strain and Age of Mice. J. Munoz and L. F. Schuchardt.—p. 330.
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Clinical Evaluation of Air-Borne and House Dust Fungi in New Jersey. N. Schaffer, E. E. Seidmon and S. Bruskin.—p. 348.
Alberta Pollen Survey. L. L. Kennedy.—p. 355.
Effect of Small Doses of Cortisone Acetate Combined with an Antihistaminic in Ragweed Pollinosis. E. B. Brown and T. Seideman.—p. 364.
Arachnidism. A. E. Cohen.—p. 369.
Critical Analysis of Hereditary Concept of Allergy. B. Ratner and D. E. Silberman.—p. 371.

Effect of Stress Factors on Asthma in Guinea Pigs.—Asthma and other allergic manifestations are frequently relieved temporarily by febrile disease, localized infections, traumatic shock, surgical operations, and pregnancy. Attempts were made to duplicate some of these stresses by various types of fever therapy and fixation abscess, injections of various foreign proteins, and bacterial polysaccharides. In spite of the good clinical results obtained in asthma and other allergic conditions with cortisone and corticotropin, the majority of investigators have agreed that these hormones do not prevent anaphylactic death in the guinea pig. Need was felt for a method that would induce in guinea pigs a condition more closely resembling human asthma. The authors describe such a method in which asthma of controllable degree was produced in passively sensitized guinea pigs by the inhalation of aerosolized crystalline ovalbumin. Using this aerosol-induced asthma as an indicator, it was shown that a protective effect can be demonstrated by pretreatment of these animals with any of the following: tripelennamine (Pyribenzamine), cortisone, corticotropin, localized chemical inflammation, yeast suspension, sodium nucleate, and human serum. A pyrogenic bacterial polysaccharide failed to give significant protection. The method described and possible future modifications of it may be used advantageously in the study of basic factors in the production and alteration of hypersensitivity.

Journal-Lancet, Minneapolis

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Cesarean Section After Onset of Labor. R. F. Sturley.—p. 267.
Rehabilitation of the Tuberculous. E. Hochhauser.—p. 271.
*32 Cases of Renal Glycosuria. J. R. Fox.—p. 275.
Clinical Evaluation of Elkosin in Refractory Genito-Urinary Tract Infections. R. R. Commons and T. Wire.—p. 278.
Track Stars Are Not Barrel Chested. S. A. Weisman.—p. 280.
*Cordotomy in High Cervical Region for Intractable Pain. L. A. French.—p. 283.
Treatment of Post-Herpetic Neuralgia. Z. R. Miller.—p. 288.

Renal Glycosuria.—The 38 cases of persistent nondiabetic glycosuria reviewed were detected in the course of physical examinations on 19,358 persons; most of them were students at the University of Minnesota and ranged in age from 17 to 37. Glycosuria was detected in 155 persons. All of these were called back for a repetition of the examination, a more complete history, and a glucose tolerance test of the two and one-half hour type with 100 gm. of glucose. These patients were examined between 1948 and 1952, and some could be followed for several years. Thirty-eight patients were found to have persistent recurrent glycosuria on a nondiabetic basis. Thirty-two of the 38 patients had fasting blood sugars that were normal (below 100), with normal curves and with transient urinary sugar. Six had a normal fasting blood sugar but an abnormally high peak curve, although with a return to normal and with a transient glycosuria. There were 32 cases of pseudorenal glycosuria and 6 of the possibly latent type of diabetes mellitus. The family history of the 38 patients revealed diabetes less often than is the case in patients with true diabetes. There was no tendency to obesity. The blood pressure range was normal. Fasting blood sugars were within normal range. The glucose tolerance curves were of two types: (1) the normal curve, with the peak generally under 150, but with sugar in the urine; (2) a high peak curve, with the upper reading over 180, and in some instances over 200. There was a return to normal or a hypoglycemic state within two and one-half hours, and glycosuria occurred. Three patients were given insulin, although the diagnosis of diabetes mellitus had not been verified by a glucose tolerance test. The author concludes that the dividing line between true renal glycosuria and pseudorenal glycosuria is less definite than is believed and that they probably are the same entity. There is an entity in which the span of the glucose tolerance curve is normal but the peak is high. This may possibly be explained by a slow, but adequate, islet cell response. It is necessary to rely upon an abnormal fasting blood sugar or a glucose tolerance curve in making a diagnosis of diabetes mellitus before starting treatment. Patients with glycosuria of any type must be followed up with sugar tolerance tests, in order to ascertain whether there is a change; each case presents an individual problem.

Cordotomy in the High Cervical Region for Intractable Pain.—French discusses the surgical relief of intractable pain arising in the region of the brachial plexus, the arm, the chest, or the upper abdomen. The operation consists of sectioning, in the region of the second cervical vertebra, the spinal cord tract carrying pain and temperature sensations, i. e., the lateral spinothalamic tract. High cervical cordotomy was performed on 42 patients. The group included patients with carcinoma in the breast, lung, esophagus, colon, pancreas, prostate, cervix, ovary, rectum, bladder, and kidney. Other patients had phantom limb, tabetic crises, and lymphatic leukemia. The pain was located in the middle or upper abdomen, in the chest, the arm, or the supraclavicular area. Where the primary lesion was in the pelvic organs, the neoplasm had extended into the pelvis and up into the retroperitoneal space. In 23 of the 42 patients the high cervical cordotomy was done unilaterally at the second cervical level. In 9 it was done bilaterally in the cervical levels, and in 10 the high cervical incision was combined with a contralateral incision in the upper thoracic level. The bilateral procedures were done for pain that was located either bilaterally or in the midline such as pancreatic pain or pain arising from metastases to the spine. Complete relief was obtained in 22 of 23 undergoing unilateral high cervical cordotomy, in 6 of 9 subjected to bilateral cervical cordotomy, and in 8 of 10 in whom unilateral high cervical cordotomy was combined with contralateral high thoracic cordotomy. Of the five fatalities two cannot be ascribed to the procedure. High cervical cordotomy has almost entirely replaced dorsal root rhizotomy except for pain in the upper four cervical segments. Complications appear to be less frequent than with thoracic cordotomy. There is less variation in the sensory levels obtained with the high cervical operation than with the high thoracic. It is believed that the lateral spinothalamic tract is more consistent in its anatomical structure and position at this level.

J. Neuropathology & Exper. Neurology, Baltimore

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Primary Carcinoma of Pituitary. E. H. Feiring, L. M. Davidoff and H. M. Zimmerman.—p. 205.
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An Intrinsic Tumor of Third Ventricle. E. I. Dobos, C. G. Freed and S. M. P. Ashe.—p. 232.
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Louisiana State Medical Society Journal, New Orleans

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*Eosinophilia in Childhood Caused by Visceral Larva Migrans. J. H. Dent and G. M. Carrera.—p. 275.
Advantages of State System for Medicolegal Investigation. S. H. Durlacher.—p. 280.

Otitis Media: Antibiotics Versus Surgery.—McLaurin believes that sulfonamides and antibiotics have been used indiscriminately in otitis media. These agents are capable of relieving the symptoms of otitis media but the pathological process may continue only partly or entirely unchecked. He saw 55 patients, chiefly children, with otitis media for which myringotomy was indicated. Thirty-four of the patients had had no previous treatment. They were all submitted to myringotomy, and they all recovered in an average of 5.17 days. The remaining 21 patients had all been treated previously by chemotherapeutic or antibiotic agents, without myringotomy. They sought medical relief because of continuing or recurrent infection. All were submitted to myringotomy, but their recovery took, on the average, 13.55 days. Furthermore, nine of them required the use of antibiotics, which were not employed until after their effectiveness against the organisms present had been proved in the laboratory. While the antibiotics usually relieve symptoms, they do not always eradicate infection, and they cannot restore the normal physiology in the presence of suppuration. Once middle ear disease is diagnosed, myringotomy is indicated under the following circumstances: severe and continuous pain; bulging of the tympanic membrane; loss or reduction of hearing in an acutely painful ear; a high septic temperature not otherwise accounted for; headaches and pain in the mastoid area; convulsions in infants; spontaneous perforation with evidence of inadequate drainage. Myringotomy should also be performed in all doubtful cases, whether or not the indications just listed are present. There is far less risk in incising the tympanic membrane unnecessarily than in allowing an undetected exudate to persist in the middle ear. The incidence of surgical mastoidectomy in otitis media has been materially reduced in recent years. Acute otitis media has itself decreased, a reduction which can be attributed to the use of the antibiotics in antecedent pneumonia and other severe respiratory infections.

Eosinophilia in Childhood Caused by Visceral Larva Migrans.—According to Dent and Carrera the term visceral larva migrans denotes the aimless migration of the larvae of certain round worms through the human viscera, although the particular species in question is not a parasite of man. The larval stage of nematodes usually parasitic in lower animals are capable of invading and damaging the human tissues and stimulating an eosinophilic response in the circulating blood. The condition is the visceral counterpart of the entity, cutaneous larva migrans, in which skin penetrating larvae of certain hookworms produce typical dermatological lesions. The authors obtained their knowledge of visceral larva migrans in part from seven clinical cases with two confirmatory liver biopsies and one complete autopsy, and in part from material submitted for consultation from three other cases in which a specific diagnosis has been established, and three additional cases in which the larvae have not been identified, but which showed typical histological lesions. In their experience, visceral larva migrans occurs in young children, usually from 18 months to 6 years of age—an age range within which children are most likely to swallow dirt. The symptoms are protean and consist of intermittent fever, malaise, pallor, loss of appetite, irritability, failure to gain weight, and muscle aches and pains. The children observed by the authors were "dirt-eaters," and there was close association with pets, especially dogs. When the cause of eosinophilia in children cannot be accounted for by allergy or orthodox parasites, one must consider the possibility of visceral larva migrans. The larvae of Toxocara canis, the ascarid of dogs, is probably the chief offender. Children become infected by swallowing dirt contaminated with feces of a worm-bearing dog. The larval parasites, after penetrating the intestinal mucosa, migrate through the organs and tissues, producing typical lesions and stimulating pronounced eosinophilia of the bone marrow and peripheral blood. Since these larvae do not complete their life cycle in man, an abnormal host for them, egg-laying adult worms of this species are not to be found in the human intestine; therefore the specific diagnosis cannot be made by fecal examination. Liver biopsy is at present the only means of establishing the exact diagnosis. As yet, no specific treatment is available. Awareness of the mode of infection, with adequate prophylaxis against subsequent exposures is the best form of therapy.

Maryland State Medical Journal, Baltimore

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Study on Reciprocal Relationship of Hypertension and Gastro-Intestinal Bleeding. S. Morrison, W. C. Ebeling and V. B. Bennett.—p. 328.

Medical Annals of District of Columbia, Washington

22:339-390 (July) 1953

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Acute Disseminated Histoplasmosis: Report of Case Diagnosed by Needle Biopsy of Spleen and Liver. J. T. Alexander and F. Bakir. —p. 359.

Metabolism, New York

2:297-390 (July) 1953

Sodium as Toxic Ion in Potassium Deficiency. P. R. Cannon, L. E. Frazier and R. H. Hughes.—p. 297.
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Interrelations Between Pantothenic Acid, Protein and Calorie Intakes with Respect to Respiration and Morphology of Duodenal Mucosa. J. J. Vitale, D. M. Hegsted, J. DiGiorgio and N. Zamchek.—p. 367.

Military Surgeon, Washington, D. C.

113:1-78 (July) 1953. **Partial Index**

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Hemorrhage into Lymphatic Vessels. L. Wirth.—p. 39.

New York State Journal of Medicine, New York

53:1377-1502 (June 15) 1953

Certain Actions of Sympathomimetic Amines on Heart. M. L. Tainter and A. M. Lands.—p. 1433.
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53:1503-1598 (July 1) 1953

Adrenal Cortex Therapy in Acute Diseases of Liver: XIV. Clinical Studies of Liver Dysfunction. L. Pelner and S. Waldman.—p. 1543.
Reversal to Normal of Abnormal Resting Electrocardiograms Following Exercise Tolerance Tests in Patients with Coronary Artery Sclerosis and Angina Pectoris. H. H. Kalter.—p. 1548.
Isolation of an Antigouty Factor from Postpartum Plasma: Preliminary Report. L. W. Granirer.—p. 1551.
Acute Febrile Petechial Oropharyngitis: Preliminary Report. M. B. Wallach, S. Schmones and S. W. Berezin.—p. 1553.
Use of Skin and Tantalum Mesh for Hernia Repair. T. C. Case.—p. 1554.
Purpura Abdominalis. A. Zabin.—p. 1557.
*Biologic Variability of Breast Carcinoma in Relation to Diagnosis and Therapy. M. M. Black and F. D. Speer.—p. 1560.

Biological Variability of Breast Carcinoma.—Medical writings as well as data prepared for the lay public generally imply that early diagnosis of breast carcinoma and radical mastectomy would result in an almost universal control of the disease. If this were so, there should be progressive local tumor growth and dissemination in a linear relationship to time, with surgical intervention representing the critical variable in relation to survival. Black and Speer show, however, that data in the literature as well as their own studies suggest the existence of biological variability in human breast carcinoma. It appears that variations in biological behavior within this disease are of far greater importance in determining survival than speed of diagnosis or surgical intervention. The five-year survival is invalid as a criterion of cure. Five-year survivals are not appreciably influenced by delays of weeks or months before surgical intervention. The majority of so-called operable cases of breast cancer have already undergone occult dissemination at the time of surgery. The curative effect of radical mastectomy probably does not exceed 10%. Ultraradical surgical interventions to cure breast cancer are not consistent with the biological nature of the disease.

Ohio State Medical Journal, Columbus

49:585-672 (July) 1953

Sensible Approach to Childbirth. L. Hirsh.—p. 601.
Gamma Globulin in Prophylaxis of Poliomyelitis: Critical Analysis of Available Data. A. B. Sabin.—p. 603.
Polio Vaccination? S. Saslaw.—p. 607.
Formula for Child Safety. G. M. Wheatley.—p. 609.
Medical Culpability and Abrasive Treatment for Acne Scars. O. C. Blackledge.—p. 614.
Tension State—Practical Approach. G. G. Floridis.—p. 616.

Psychoanalytic Review, Albany, N. Y.

40:197-294 (July) 1953. **Partial Index**

"Primary Constellation" in Structure and Treatment of Psychoses. J. Flescher.—p. 197.
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Psychodynamics in Fraternal Twinship Relations. B. Karpman.—p. 243.
Structural Analysis of Transvestitism. T. Hora.—p. 268.

Rocky Mountain Medical Journal, Denver

50:531-612 (July) 1953

Problem of Pancreatitis. R. M. Zollinger and T. Boles.—p. 554.
*Use of ACTH and Cortisone in Conjunction with Antibiotic Therapy in Management of Overwhelming Infections. L. W. Kinsell, L. Boling, L. Lewis and others.—p. 560.
Diabetic Retinopathy. E. S. Murphy.—p. 562.
Cataract—Modern Interpretation and Recent Surgical Technics. D. O'Rourke and A. G. Starr.—p. 565.
Colorado Psychopathic Hospital. R. R. Cohen.—p. 568.

Corticotropin, Cortisone, and Antibiotics in Overwhelming Infections.—Corticotropin and cortisone partially or completely suppress clinical manifestations of a wide variety of diseases resulting from specific infectious organisms. This suppression is not referable to inhibition of growth of the causative organism. Kinsell and associates state that corticotropin and cortisone have been administered over the past two years at their clinic to patients under reasonably well controlled conditions in an attempt to answer certain specific questions: 1. *Is there a place for the use of these hormones in management of patients with severe nontuberculous infectious disease?* 2. Is there any place for the use of corticotropin and cortisone in the treatment of patients with active tuberculosis? It was found that there appears to be a definite place for employment of corticotropin and cortisone, in conjunction with intensive antibiotic therapy, in the treatment of patients with infections of more than usual severity, i. e., infections that fail to respond adequately to chemotherapy alone. If hormonal therapy is to be used in such patients, it should be intensive initially, but should be decreased as rapidly as the patient's improvement permits. With the possible exception of tuberculous meningitis, corticotropin and cortisone are contraindicated in the presence of active clinical tuberculosis. This statement is subject to later revision. The use of diets high in protein and potassium, low in sodium and carbohydrate, and adequate in calories is imperative in all patients receiving corticotropin and cortisone.

Southwestern Medicine, El Paso, Texas

34:229-264 (July) 1953

Surgical Treatment of Bleeding Esophageal Varices. R. R. Linton. —p. 242.
Bilateral Retinoblastoma. C. P. Elsberg.—p. 244.
Modern Treatment of Urinary Infection. E. Burns.—p. 248.

34:265-304 (Aug.) 1953

Case Presentations: Perforated Appendix. C. H. Kratochvil.—p. 284.
Embryology and Anatomy of Appendix. A. E. Voigt.—p. 285.
Etiology and Diagnosis of Appendicitis from Infancy to Old Age. E. T. McNamee.—p. 288.
Surgical Management of Complicated Appendicitis. K. G. Eggen.—p. 289.

FOREIGN

Annals of Rheumatic Diseases, London

12:81-176 (June) 1953

Comparative Effects of ACTH and Butazolidin in Rheumatoid Arthritis. R. M. Mason.—p. 82.
Observations on Treatment of *Rheumatoid Arthritis with Butazolidin.* J. P. Currie, R. A. P. Brown and G. Will.—p. 88.
Treatment of Acute Rheumatism with Butazolidin. J. Fleming and G. Will.—p. 95.
Rheumatoid Syndrome Occurring in the Elderly. L. Bagratuni.—p. 98.
Histochemical Studies of Rheumatic Conditions: I. Observations on Fine Structures of Matrix of Normal Bone and Cartilage. H. T. Fawns *and* J. W. Landells.—p. 105.
Fistulous Rheumatism: Manifestation of Rheumatoid Arthritis. E. G. L. Bywaters.—p. 114.
Ulnar Deviation of Fingers. K. Vainio and M. Oka.—p. 122.
Hydrocortisone Administered Orally in Rheumatoid Arthritis. E. W. Boland.—p. 125.
Factors in Gold Dosage and Toxicity in Rheumatoid Arthritis. J. S. Lawrence.—p. 129.
H.P.C. *(3-Hydroxy-2-Phenylcinchoninic Acid) in Rheumatoid Arthritis.* L. Mandel and G. D. Kersley.—p. 136.
Cortisone and Heparin. C. Cervini, E. Cerimele and S. Luca.—p. 140.
Fatal Complication Following Insulin Therapy in Rheumatoid Arthritis. N. R. W. Simpson and G. F. Trowbridge.—p. 142.
Nephrotic Syndrome Following Sodium Bismuth Tartrate Therapy in Rheumatoid Arthritis. J. W. Beattie.—p. 144.

British Medical Journal, London

1:1405-1460 (June 27) 1953

*Diabetic Myelopathy. H. Garland and D. Taverner.—p. 1405.
*Diabetic Neuropathy. C. Hirson, E. L. Feinmann and H. J. Wade. —p. 1408.
Prognosis in Diabetic Pregnancy. W. Oakley.—p. 1413.
Fatal Hypoglycaemia in Diabetic Patient with Pituitary Necrosis. R. I. Alexander.—p. 1416.
Friedreich's Ataxia Combined with Diabetes Mellitus in Sisters. D. W. Ashby and P. S. Tweedy.—p. 1418.
Time of Eruption of Permanent Teeth in British Children in 1947-8. E. M. B. Clements, E. Davies-Thomas and K. G. Pickett.—p. 1421.
Order of Eruption of *Permanent Human Dentition.* E. M. B. Clements, E. Davies-Thomas and K. G. Pickett.—p. 1425.
Mammary Abscess: Disadvantages of Antibiotics in Its Management. C. P. Mills.—p. 1427.
Prosthetic Mucosal Hypertrophy in Mouth, 'Simulating Malignancy. J. Walter.—p. 1429.
Simple Depressed Fracture of Skull. L. Rogers.—p. 1431.
Teepol in Preparation of Sputum for Tubercle Culture. P. Browning, K. M. Calver and E. E. Paterson.—p. 1432.

Diabetic Myelopathy.—The reality of diabetic neuropathy without objective sensory loss became apparent to Garland and Taverner from clinical observation of the five patients whose case histories are presented. The youngest was 56 and the oldest 73. They all had diabetes of relatively short duration, varying from three years to six months. All complained of pain in the legs, which was always asymmetrical and sometimes unilateral. The pain, though diffuse, tended to be maximal in the hip and thigh. All showed wasting of the leg muscles and loss of the tendon reflexes in the legs. Four of the patients showed a high protein level in the cerebrospinal fluid. Electromyographic studies revealed changes, which seemed compatible with a myelopathic lesion. They are unlike the usual findings in peripheral neuritis. The authors feel that this is probably a form of diabetic neuropathy described by Bruns in 1890. Pathological studies were not possible on the present series of patients, but there were clinical features which suggested that the lesions may be present in their spinal cords. Not only was the disturbance limited to motor function but the distribution of the affected muscles was not compatible with the known distribution of peripheral nerves or nerve roots. The presence of extensor plantar responses in three, perhaps four, of the patients was unequivocal evidence of a central lesion. Whatever the nature and cause of the lesion in these patients, the authors felt that the existence of motor disturbances without objective sensory loss in diabetics, as described by Bruns over 60 years ago, was of clinical importance. These patients are being misdiagnosed as suffering from other, often more serious, neurological conditions. Treatment consisted of suitable diet, insulin treatment and physiotherapy. One patient continued to deteriorate for some months, but ultimately recovered completely. The oldest and least cooperative of the patients showed no change at the time of writing, four months after he was first seen; the other three improved rapidly after the institution of treatment. It seems possible that the natural history of this syndrome is one of spontaneous improvement, irrespective of the treatment employed.

Diabetic Neuropathy.—*Hirson and associates* found on routine examination of diabetic patients that neurological abnormalities were more the rule than the exception and that acute nervous diseases were by no means rare. They collected acute cases and examined a consecutive series of 100 diabetic outpatients. Of the 100 diabetic outpatients, 57 showed neural abnormalities and three had an acute neurological illness. To obtain more clinical information on acute neuritis in diabetes, the authors also studied 50 hospitalized diabetic patients. They found that about half of the patients with diabetes mellitus show evidence of neurological disease. They differentiate three types of diabetic neuropathy: First, the hyperglycemic form which is related to failure to control the diabetes and is rapidly relieved by proper treatment. The second is the active and most serious form of diabetic neuropathy, which is present in about 3% of diabetic patients; it is not related to the diabetic status and has a tendency to remission and relapse. The third form is asymptomatic and not disabling, but chronic and permanent. There is no evidence that arteriosclerosis or vitamin B_1 deficiency plays a part in the causation; the neuropathic process seems to be inherent in some cases of diabetes. Their observations support the view that diabetes is a disease-complex in which the metabolic disorder is only one manifestation, with neuropathy occurring not as a "complication" but as an integral part of a variable process. Sugar tolerance tests are of value in the investigation of obscure neurological disease. The production of gangrene, neurogenic bladder, and joint change by diabetic neuropathy is of practical importance.

Canadian Medical Association Journal, Montreal

69:1-96 (July) 1953

Some Aspects of Present Day War Surgery. A. M. Davidson.—p. 1.
Diathermy Fulgurization in Treatment of Certain Cases of Rectal Carcinoma. F. G. Kergin.—p. 14.
*Experimental Study of Intimal Ground Substance in Atherosclerosis. G. C. Willis.—p. 17.
Remarks on Chronic Ailments by Retired Internist. C. Hunter.—p. 23.
*Haematopathological Complications of Gold Therapy: Effects of Splenectomy and BAL. E. M. Watson.—p. 27.
Liver Function Studies on Alcoholics. G. L. McBroom and H. W. Smith. —p. 32.
Dextran in Treatment of Persistent Oedema. F. Chirico.—p. 35.
Dangerous Unnecessary Transfusion. R. Robinson, J. Kristiansen, L. Hunter and others.—p. 38.
Thrombophlebitis Migrans. J. W. Thomas, H. E. Taylor and W. J. O'Donnell.—p. 40.
Clinical Manifestations of Autism and Schizophrenia in Childhood. D. Cappon.—p. 44.
*Mumps Meningoencephalitis. D. Bowers and D. S. P. Weatherhead. —p. 49.
Herniated Intervertebral Disc with Sciatic Syndrome. H. H. Hepburn. —p. 55.
Nutrition and Public Health. J. H. Ebbs.—p. 61.

The Intimal Ground Substance in Atherosclerosis.—According to Willis the mechanical stress important in the localization of atherosclerosis is a stretching of the arterial wall. This is *influenced by arterial blood* pressure, radius of lumen, curvature of artery and arterial fixation. This mechanical stress is counteracted by the components of the arterial wall. This stretching force may be linked with the stress which localizes lesions in scurvy. Because the primary changes in atherosclerosis are morphologically of the intimal ground substance at points of mechanical stress, Willis chose experimental scurvy as the ideal means of reproducing these conditions. A total of 145 guinea pigs was divided into the following dietary groups: (1) chronic scorbutic diet; (2) chronic scorbutic diet with oral ascorbic acid; (3) chronic scorbutic diet with cholesterol and oral ascorbic acid; (4) chronic scorbutic diet with cholesterol and intraperitoneal ascorbic acid; (5) acute scorbutic diet; (6) acute scorbutic diet with oral ascorbic acid; (7) acute scorbutic diet with cholesterol; and (8) acute scorbutic diet with oral ascorbic acid and cholesterol. It was found that ascorbic acid deficiency in guinea pigs produces atherosclerosis regardless of whether the scurvy is acute or chronic. Atherosclerosis of scurvy occurs at normal cholesterol levels and without deposits of lipid in the reticuloendothelial system. This form of atherosclerosis thus closely simulates the human form of the disease. Intraperitoneal ascorbic acid greatly inhibits atherosclerosis of cholesterol feeding in guinea pigs. The ground substance disturbance associated with atherosclerosis is of major importance in the pathogenesis of arterial calcification, intimal hemorrhage, and thrombosis. Cholesterol feeding interferes with ascorbic acid metabolism in rabbits and in guinea pigs receiving oral ascorbic acid. Acute infection in guinea pigs produces minimal atherosclerosis in about 33% of guinea pigs studied. Thyroid and cortisone have no inhibitory effect on the atherosclerosis of cholesterol feeding in guinea pigs in a small series nor do they inhibit the atherosclerosis of scurvy. Massive parenteral doses of ascorbic acid may be of therapeutic value in the treatment of atherosclerosis and the prevention of intimal hemorrhage and of thrombosis.

Complications of Gold Therapy: Effects of Splenectomy and Dimercaprol (BAL).—Watson points out that of the complications associated with the therapeutic use of gold salts, those affecting the hemopoietic system are the most critical. They comprise thrombocytopenia, granulocytopenia, hypoplastic or aplastic anemia, occurring singly or in various combinations including pancytopenia. The manner by which the compounds of gold effect these several blood dyscrasias is debatable, but it is not inconceivable that they may act upon the spleen, initiating in some unknown manner a disturbance of its functions. By virtue of this conception the blood dyscrasias related to gold may be regarded pathogenetically as falling within the realm of secondary hypersplenism. A case of pancytopenia and two cases of thrombocytopenic purpura developing after the use of gold preparations are cited. In two of these, clinical and hematological improvement followed splenectomy. The administration of dimercaprol (BAL) to one patient failed to influence the thrombocytopenia.

Mumps Meningoencephalitis.—An epidemic of mumps occurred between December, 1951, and June, 1952, in a rural area of Saskatchewan and gave Bowers and Weatherhead an opportunity to study this disease. They estimate that about 250 cases of mumps occurred among a population of 3,500, this being the first epidemic in the locality since 1937. While the authors did not see all of the cases, they feel that most of those taking an atypical course were reported to them. A diagnosis of manifest mumps meningoencephalitis was established in 39 cases. Descriptions of the illness by telephone during the acute phase, and in personal interviews after recovery, convinced them that many additional cases of mumps meningoencephalitis occurred. The authors conclude that about 25% of all persons with mumps may be expected to manifest mumps meningoencephalitis. The authors believe that more frequent spinal fluid examination would demonstrate that many such patients have mumps meningoencephalitis. Mumps meningoencephalitis must be thought of in the diagnosis of all patients presenting with an acute viral disease of the central nervous system, even in the absence of a recent salivary gland or testicular enlargement. No specific therapeutic agent is available. Acetylsalicylic acid relieved many of the headaches, and with careful nursing supervision controlled the fevers. Dimenhydrinate proved of some value in arresting vomiting. Parenteral rehydration was required by several patients. In many instances the initial diagnostic lumbar puncture appeared to relieve distress. Repeated spinal drainage seemed of no avail. Initially, the authors attempted to insist on hospitalization until the spinal fluid cell count returned to normal. As the epidemic spread it was found that a patient could improve clinically while the spinal fluid cell count rose, and that of two patients, the sicker might have the lower cell count. For these reasons, repeated cell counts were discontinued, and patients were discharged for convalescence at home 48 hours after the temperature had become normal.

Deutsche medizinische Wochenschrift, Stuttgart

78:831-866 (June 5) 1953. Partial Index

Artificial Insemination in Human Subjects. K. Kohlberg.—p. 835.

*Vascular Murmurs in Peripheral Circulatory Disturbances. K. Holldack and E. Kuhn.—p. 842.

Method of Treatment of Laryngeal Carcinoma. R. Maurer.—p. 844.

*Streptococcic Enzymes (Streptokinase-Streptodornase) in Inflammation: Their Use in Enzymatic Decortication. T. Halse and P. Braun.—p. 846.

Pathologic Aspects of Hemolysis Resulting from Transfusion. H. U. Zollinger.—p. 847.

78:867-898 (June 12) 1953. Partial Index

Gout. E. Grafe.—p. 867.

Criticism of So-Called Positive Proof of Paternity According to Löns. P. Dahr.—p. 871.

*Question of Tuberculous Etiology of Boeck's Sarcoid. R. Doepfmer.—p. 873.

New Results of Medicinal Treatment of Arterial Hypertension. O. H. Arnold and K. D. Bock.—p. 879.

*Streptococcic Enzymes (Streptokinase-Streptodornase) in Inflammation: Their Use in Enzymatic Decortication. T. Halse and P. Braun.—p. 883.

Vascular Murmurs and Peripheral Circulatory Disturbances.—Holldack and Kuhn examined patients for murmurs in the large vessels. Frequently when there were other signs of peripheral circulatory disturbances, they found murmurs in the large vessels. Murmurs cannot be produced by compression of the abdominal aorta because its mobility is such that it cannot be compressed. To detect the vascular murmurs the stethoscope is pressed deeply into the abdomen. The "knocking tone," which is occasionally audible above these vessels, is readily differentiable from a murmur. In the presence of very thick abdominal walls the murmur may be very soft, and careful search is required, particularly if the intestinal peristalsis is loud. Studies on more than 1,000 persons revealed that in persons with a sound vascular system murmurs were never perceptible above the aorta or its two main branches, the iliac arteries. In patients with intermittent claudication or with other disturbances in the peripheral circulation murmurs are frequently detected over these vessels. The objection might be made that the aortic murmurs above the umbilicus are transmitted cardiac murmurs, because in this region the heart sounds are still audible. For this reason the authors made phonoangiographic records of the vascular murmurs, which revealed that these murmurs appear later than the heart sounds. Vascular murmurs were also occasionally perceptible in the carotid arteries in a patient with severe cerebral sclerosis, but generally murmurs are missing in the carotid arteries, even if sclerosis in this vascular region is severe. Auscultation of the aorta and iliac arteries and phonoangiographic registrations convinced the authors that these simple methods of examination provide information about pathological changes in the vascular walls. The absence of vascular murmurs does not necessarily prove that a vessel is normal, for completely obstructed vessels likewise do not produce murmurs and not all diseased vessels necessarily produce murmurs. The vascular auscultation method should be employed only in connection with other methods of examination. Vascular murmurs can be recorded at one or several sites in about 75% of patients with impaired peripheral circulation. The number of patients with disturbances in the peripheral circulation, obliterating endangiitis, or arteriosclerosis studied by the authors has now reached 48, and the frequency with which vascular murmurs were detected has remained about the same (75%).

Question of Tuberculous Etiology of Sarcoid of Boeck.—Doepfmer reports studies on 12 patients with Boeck's sarcoid, in whom the diagnosis was established by repeated clinical observation, histological studies, and roentgenologic findings. Animal experiments were made on guinea pigs, and excised specimens were cultured in Hohn's egg medium. Some of these patients had been observed for several years, and exploratory excisions had been taken for animal tests. Other patients had fresh foci in which presumably tubercle bacilli could be demonstrated only by the Kyrle method. Two animals were used for each investigation. In one test the biopsy specimen was cut up and dismembered by crushing it in a mortar in isotonic sodium chloride solution, and the suspension injected into the knee fold of one animal;

in the other animal, a piece of the biopsy specimen was implanted. Four weeks later the animals were tested with tuberculin. The animals were killed after three months and necropsy material obtained for subsequent passages from the regional lymph nodes and from suspensions of spleen or liver. Six passages were made in six patients with sarcoid of Boeck. In four patients three passages were made, and in three patients, so far, two passages. No indication of the presence of tuberculosis was obtained in any of these tests. None of the animals gave a positive tuberculin reaction. In further tests the tuberculosis complement fixation test was performed with tuberculosis antigen on patients with sarcoid of Boeck, on healthy subjects, and on patients with skin tuberculosis or scrofuloderma. Positive reactions were obtained in a small percentage of patients with sarcoid of Boeck, but some of the healthy subjects also had positive reactions, whereas only about two-thirds of the patients with lupus or scrofuloderma had positive reactions. The authors feel that these results do not prove a tuberculous etiology in sarcoid of Boeck.

Streptokinase and Streptodornase in Enzymatic Decortication.—Halse and Braun review the status of knowledge on the enzyme systems of the body which under physiological conditions liquefy fibrin not only intravascularly but also extravascularly. The fact that blood remains fluid in the large body cavities can be traced to the process of "decoagulation." Hematomas, hemarthrosis, or hemothorax can be evacuated only after this process has taken place. The fibrinolytic process represents a very sensitive enzymatic system which is easily impaired. Hemolytic streptococci produce an activator of fibrinolysin, known as streptokinase, and thereby are able to liquefy the fibrin membrane which is formed by the organism. Streptokinase can be used to accelerate the retarded "decoagulation." The penetration of streptokinase is facilitated by streptodornase, a true ferment or enzyme which is capable of breaking down the chief constituent of abscess membranes and of pus, namely desoxyribonucleoproteid. On the basis of viscosity determinations and of microphotograms examples are given to illustrate liquefaction of pus by means of streptodornase. The authors report their clinical experiences, which corroborate the observations of American authors on the therapeutic use of streptokinase and streptodornase in the treatment of septic surgical lesions. Repeated irrigations with these enzymes effected complete enzymatic decortication in 17 patients with residual osteomyelitic cavities. In eight cases considerable improvement resulted, whereas in three cases no result was obtained. Favorable results were also obtained in local treatment of superficial necrosis, chronic abscesses, pleural empyemas, and fistulas. In a total of 92 patients the results obtained were excellent in 59 and satisfactory in 21, whereas in 12 no influence could be observed. There were no undesirable secondary effects.

Gazeta Médica Portuguesa, Lisbon

6:277-428 (No. 2) 1953. **Partial Index**

*Acute Thyroiditis. Clinical and Therapeutic Study of Three Cases. J. A. de Mesquita Sampaio, S. Krynsky, H. Weber and L. Raimo.—p. 925.
Indications of Operation in Acute Obstruction of Small Intestine. S. Levy. —p. 347.
Acute Pancreatitis in Pregnancy: Observations in Obstetric Clinic. R. Briquet.—p. 373.

Acute Thyroiditis.—The authors report three cases of acute nonsuppurating thyroiditis. The patients were a boy, 17 years old, and two women, 42 and 64 years of age. In the first patient fluctuation of the thyroid was palpated. The exploratory puncture gave negative results. The disease was controlled by penicillin alone in doses of 100,000 units every four hours for four consecutive days. Upon discontinuation of the treatment for four days the disease reappeared, proved to be resistant to penicillin, and was controlled by the combined treatment with penicillin, sulfadiazine, and short waves. In the second patient the condition was caused by the infection of the maxillary and facial sinuses. Both sinusitis and thyroiditis were controlled by the treatment with penicillin, sulfadiazine, and local application of short waves. In the third patient the disease was due to infectious tonsillitis. The combined treatment given for 10 consecutive days was ineffective. Cure was obtained after tonsillectomy. The patients are well three to three and one-half years after the treatment. The author advises the use of penicillin alone, when penicillin-sensitive micro-organisms can be identified as cause of the infection. Short waves applied to the thyroid are of value in the treatment. Surgical therapy should be restricted to cases of suppurating thyroiditis or to cases in which acute complications of thyroiditis occur, such as mediastinitis, edema of the larynx, pressure upon the trachea and rupture of an abscess into an adjacent region; all of these require immediate surgical intervention.

Lancet, London

1:1261-1318 (June 27) 1953

*Headache and Hypertension. I. McD. G. Stewart.—p. 1261.
Intra-Arterial Transfusion: Potassium Hazard. D. G. Melrose and A. O. Wilson.—p. 1266.
*Poliomyelitis Following Inoculation: Survey of 29 Children. D. Geffen, J. H. Paterson and S. M. Tracy.—p. 1268.
Method of Treatment for Varicose Veins. M. G. Wilson.—p. 1273.
Assessment of Adrenocortical Activity by Assay of 17-Ketogenic Steroids in Urine. J. K. Norymberski, R. D. Stubbs and H. F. West. —p. 1276.
Thiouracil in Pregnancy: Its Effect on the Foetus. N. Elphinstone. —p. 1281.
Transient Hypothyroidism in Newborn Infant. D. Morris.—p. 1284.
Radio-Electrophysiologogram: Radio Transmission of Electrophysiological Data from Ambulant and Active Patient. C. S. Parker, C. C. Breakell and F. Christopherson.—p. 1285.

Headache and Hypertension.—Persons with hypertension often complain of headache, dizziness, shortness of breath, or even of losing their tempers. It does not follow, however, that the blood pressure is to blame. In a survey of 200 consecutive patients with severe hypertension an assessment was made of the symptom of headache by an interrogation technique designed to avoid suggestion. Patients who were aware and those who were unaware of their hypertension were compared. The severity of the hypertension was found to be about the same in the two groups as regards the diastolic level, electrocardiograms, and roentgenologic appearance of the left ventricle. Retinal changes were somewhat greater in those with headache. Of 104 patients unaware of their hypertension, 87 would not admit to having headache. This tendency for headache to be absent persisted through all grades of diastolic pressure. Only three of these patients stated spontaneously that they had headache and 14 others admitted they had headache on questioning. Of 96 patients who were aware of their hypertension, 71 complained of headache, most of them in terms characteristic of anxiety. Analysis of the remaining 25 revealed that 18 had organic cause of complaining of something else and 6 offered symptoms characteristic of anxiety. From these observations together with evidence obtained from the examination of controls Stewart concludes that the headache which so often accompanies hypertension is usually a product of anxiety. It seems almost impossible for a patient who has been told of his "blood pressure" to remain free of symptoms. It appeared that hypertension might occasionally produce headache as an organic symptom. This was most likely in menopausal women during the early stages of benign hypertension, or, as a relatively insignificant feature, within the syndrome of malignant hypertension. It is a fallacy to acclaim any treatment of hypertension in virtue of its alleged cure of headache.

Poliomyelitis Following Inoculation.—Geffen and associates cite previous reports on the association between immunization and paralytic poliomyelitis, calling particular attention to Geffen's own report in 1950. Reference was made to 37 children, of whom 30 had developed poliomyelitis within a month of immunization, the site of paralysis being the site of injection. None of these subsequently died, and 27 of these 30 children were examined some two years later. Hospital records of the illness and present condition were available of two of the other three children. The extent of the recovery in these 29 children was compared with that of another 23 children who had not had any recent injection but who had poliomyelitis at about the same time in London in 1949, who were of approximately the same age, and in 21 of whom an upper limb was one of the limbs affected. The average interval between inoculation and the onset of poliomyelitis was 13 or 14 days: in over 80% of cases it was between 5 and 16 days. It is probable that three weeks after inoculation the period of risk has passed. The preparalytic symptoms recorded in the 29 inoculated children were in the main similar to those observed in the controls. The paralysis of poliomyelitis following recent inoculation appears to be relatively limited in extent, but it is nearly always severe. Recovery of the limb appears to depend on the initial severity of the paralysis, irrespective of whether the limb has been inoculated or not. The extent of recovery which took place in two and a half years in both the inoculated and control groups was related to the severity of the original paralysis. In the 29 inoculated children there was no information that the inoculations were intramuscular rather than subcutaneous. It is considered doubtful if immunization at an earlier age would prove effective in avoiding post-inoculation poliomyelitis. It has not been proved that lay publicity on post-inoculation poliomyelitis is the reason for recent reduction in the number of children immunized against diphtheria. The authors are of the opinion that the public is entitled to have the facts put before them clearly.

Minerva Medica, Turin

44:1313-1344 (May 19) 1953. Partial Index

*Salvioli's Diffusing Vaccine (V.D.S.) in Prophylactic Inoculation of Man Against Tuberculosis. G. Salvioli.—p. 1313.
Diagnosis of Pulmonary Echinococcosis by Means of Rare Laboratory Finding. E. Poli and A. Gianni.—p. 1320.
Exceptional Case of Subacute Bacterial Endocarditis Caused by Bacillus Faecalis Alcaligenes: Treatment with Penicillin Combined with Sulfonamides. A. Berengo and E. Bussinello.—p. 1322.

Salvioli's Diffusing Vaccine for Antituberculous Vaccination.—Salvioli's diffusing vaccine (V. D. S.) for immunization against tuberculosis consists of killed human and bovine tubercle bacilli combined with hyaluronidase. It is prepared by suspending 3.75 mg. of Koch's bacilli in 1 cc. of isotonic sodium chloride solution and heating the suspension to 100 C for 10 minutes. The suspension is returned to laboratory temperature, and hyaluronidase is added to it in the ratio of 30 viscosity units to 1 cc. This preparation is placed in 0.2 cc. or 1 cc. ampuls, which are then lyophilized. At the time of the vaccination water is added in an amount equal to that which was removed by the lyophilization process. The 0.2 cc. ampul contains 0.75 mg. of killed bacteria and 6 viscosity units of hyaluronidase. It is the effective dose for a newborn infant or a nonallergic infant less than one year old. Half of this ampul is sufficient for one school age child or one adult. The 1 cc. ampul thus contains enough preparation to vaccinate 5 newborn infants or 10 adults. The best location for the vaccination is the inner aspect of the forearm, and the intradermal route has proved to be the best way of administration. The vaccinal focus manifests itself as a small swelling that lasts from two to four months. The second phase of the inflammatory process is characterized by a reactivation of the focus during which the swelling becomes more pronounced, a small eschar is produced, and in many instances there is interstitial exudation and necrotic phenomena in the outer layer of the skin. Later a crust is formed and then a scar. Salvioli studied 334 persons, 6, 12, and 18 months after they had been vaccinated with this vaccine. An allergic state was present in all newborn infants and all adults (up to 18 years of age) 18 months after the vaccination. All of these persons had had a patent vaccinal reaction. Allergization had been secured, however, in only 85 to 90% of the children between the age of 4 and 6 years. There was no patent reaction in some of these, but a slight depression of the skin in the area where the vaccine was injected indicated that the reaction was taking place in the hypoderm. A focus did not appear in 16 of these 40 children and in 3 of them the allergic state had not been secured 18 months after the vaccination. The same dose of vaccine (0.37 mg. of killed bacteria and 3 viscosity units of hyaluronidase) was used for these children as for the older ones. But since the reaction to this vaccine is more pronounced in older children, the author ascribes these inconstant results to an insufficient dose of vaccine. A dose which will produce the allergic state in all children between 4 and 6 years of age has not as yet been established.

44:1345-1388 (May 23) 1953

Diabetes Mellitus and Pulmonary Tuberculosis. P. Stanganelli.—p. 1345.
*Streptomycin Level in Spinal Fluid of Patients with Tuberculous Meningitis Under Treatment in View of Eventual Enzymatic Action or Changes in Meningeal Permeability. A. Pani.—p. 1361.
Hollander's Method for Evaluation of Gastric Secretion and of Pylorus Emptying Time with Reference to Use of New Synthetic Anticholinergic Drug. P. Spigliati.—p. 1368.
Isoniazid in Exudative Pleurisy. C. Ceresa and M. De Blasiis.—p. 1370.

Streptomycin in Spinal Fluid of Patients with Tuberculous Meningitis.—Studies were made to determine the factors which may influence the amount of streptomycin present in the cerebrospinal fluid of patients with tuberculous meningitis treated with this antibiotic. Hypotheses were advanced that there could be some enzymatic action on the antibiotic due to the presence of bacterial catabolic products in the fluid itself, pathological tubercle products in the specific meningeal lesion, or proteins of blood origin produced by alterations in the hematoencephalic barrier. In the first study patients with the disease who were being treated with streptomycin were not given the antibiotic for 24 hours and 2 to 3 cc. of spinal fluid were removed from each patient. Then 1 cc. of the fluid was added to a streptomycin solution so that 1 cc. of the resulting solution contained 40 mcg. of the antibiotic. This was also added to 1 cc. of isotonic sodium chloride solution in the same ratio and both solutions with the remaining spinal fluid were placed in a thermostat at 37 C. After eight hours there was no antibiotic in the cerebrospinal fluid whereas there were still 40 mcg. of streptomycin in each of the other two solutions. Thus there was no substance in the fluid of these patients that inhibited even partially the antibiotic. The author then studied the eventual influence of the meningeal permeability on the presence of the antibiotic in the fluid of other patients. He made the study on 14 patients, of whom 12 had tuberculous meningitis and had been receiving the drug for varying periods. The renal function was not impaired in any of them. After a treatment-free period of several days, each patient was given 0.75 mg. of streptomycin per kilogram of body weight intrathecally. The urine was collected and blood specimens taken four and eight hours later, while cerebrospinal specimens were taken eight hours later by the suboccipital and the lumbar routes. He found that the antibiotic escapes rapidly from the spinal fluid of patients in whom the disease is of recent onset. This is ascribed to hypersecretion of the choroid plexuses, and therefore hypertension of the fluid, while the pathways of drainage are not impaired by the disease. Patients in whom the disease is of long standing retain the antibiotic in the lumbar space when a complete or partial block develops and in the leptomeningeal space when there are alterations of the pacchionian bodies. The retention of streptomycin in the spinal fluid may also be caused by sclerosis and calcification of the plexuses. These alter the vasomotor and secreting sympathetic fibers and thus cause changes in the production of ventricular fluid; a decreased ventricular secretion of the subarachnoid spaces retards the drainage of the fluid and therefore of the antibiotic. Another possibility is the occurrence of biochemical changes in the meningeal collagen tissue, as happens in meningeal inflammation of long duration, with a consequent reduction of the meningeal permeability. A definitive evaluation is not possible yet. The varying levels of streptomycin in the cerebrospinal fluid of patients with tuberculous meningitis are due to a greater or lesser permeability of the hematoencephalic barriers, and also to the various mechanisms which influence directly or indirectly secretion, circulation, and drainage of the cerebrospinal fluid.

Nordisk Medicin, Stockholm

49:701-734 (May 15) 1953. **Partial Index**

Sanatorium Treatment of Neuroses. G. Belling.—p. 704.
Electromyography in Neurologic Disorders. A. Lundervold.—p. 706.
*Epidural Space in Polyradiculitis (Landry-Guillain-Barré Syndrome). Peripachymeningitis Spinalis. N. Antoni.—p. 709.
Pathogenesis in Disseminated Sclerosis. I. Persson.—p. 713.
Differential Diagnosis in Neurogenic Impairment of Hearing. T. Lundborg.—p. 714.

Epidural Space in Polyradiculitis (Landry-Guillain-Barré Syndrome): Spinal Peripachymeningitis.—In the first of the four cases of polyradiculitis reported death from respiratory paralysis occurred on the 13th day; interstitial round cell infiltration was found in the peridural adipose tissue. In the third and mild case, where the patient was improving rapidly, pulmonary embolism caused sudden death five weeks after the onset; microscopic examination revealed slight changes corresponding to the mild nature of the disease. In the second case, with death from respiratory paralysis and circulatory collapse after four weeks, the cerebrospinal fluid was yellowish, with greatly increased albumin content. The degeneration of peripheral nerves and spinal cord was pronounced. Antoni believes that with the extensive and marked paralysis, intact anterior roots and strongly degenerated posterior roots the lesion must have been extradural. The degeneration of the posterior root system is secondary or wallerian. In the cervical, dorsal and lumbosacral region the epidural tissue showed an irregular disseminated intensive round cell infiltration, partly perivascular, in places with hemorrhages. Adipose infiltration of this kind might explain the pronounced hyperemia of the intradural structures, the increased albumin content of the cerebrospinal fluid and the mainly secondary character of the histologic changes revealed in the peripheral nerves, spinal roots and spinal cord. In the fourth case, clinically diagnosed as spinal peripachymeningitis in the middle thoracic region, chest roentgenograms showed left basal bronchopneumonia. Penicillin treatment resulted in rapid improvement and recovery.

Pédiatrie, Lyon

8:485-586 (No. 4) 1953

*Study of 47 Strains of Koch's Bacillus Isolated During Primary Tuberculous Infection in the Child: Their Sensitivity to Streptomycin and Their Species. A. Bertoye, J. Viallier, P. Gallois and L. Delaruelle.—p. 485.
How to Consider the Etiology and Pathogenesis of Rhinobronchorrhea and Bronchiectasis in Infancy. Arguments Drawn From 298 Cases. M. Roche.—p. 491.

Study of Many Strains of Koch's Bacillus.—Koch's bacilli obtained from children with primary tuberculosis were studied in relation to their sensitivity to streptomycin and their species. Specimens, obtained by gastric washing and guinea-pig inoculation, consisted of 40 strains isolated before, and seven strains isolated during treatment with streptomycin. The limit of therapeutic efficiency is usually set at a level of 10 mcg. per cc.; of the 40 strains isolated before treatment, all were sensitive to streptomycin, only two requiring as much as 10 mcg. for their inhibition. Indications for streptomycin in primary infection are limited, and bacilli are not often found in gastric washings after streptomycin therapy has been started; consequently, the number of strains isolated during treatment was small, but of the seven found, six were sensitive to concentrations of 1 mcg. and only one required 10 mcg. for inhibition. The age of the children, all of whom were less than 3 years old, and the noncavitary form of the disease were apparently important factors in the continued streptomycin sensitivity of the bacilli; combined therapy, which delays the appearance of streptomycin resistance, had been given to only two of the seven children. None of the 47 strains examined belonged to the bovine variety of M. tuberculosis, although certain factors usually taken to indicate a bovine origin for the disease, such as the onset of illness during vacations in the country and the drinking of raw milk, were present in several cases. The nonexistence of streptomycin-resistant bacilli in the untreated children and the nonappearance of resistant strains in children under 3 subjected to streptomycin therapy are in marked contrast to the conditions found in adults.

Policlinico (Pract. Sect.), Rome

60:739-776 (May 25) 1953

*Some Epidemiological, Clinical, and Laboratory Data of Influenza Epidemic in the Rome Area During 1952-1953. D. Balducci, G. Boemi and A. Felici.—p. 739.
Behavior of Sugar, Phosphorus, Pyruvic Acid and Lactic Acid in Blood of Patients with Induced Elevated Temperature After Glucose Administration. E. Malizia, L. Scapellato and V. Boccardelli.—p. 744.
One Year of Antituberculous Therapy with Isoniazid: Observations and Comments. B. Boggian.—p. 748.

Study of Influenza Epidemic of 1952-1953 in the Rome Area.—Approximately 300 persons were treated by the authors during the influenza epidemic which occurred in the Rome area during the winter 1952-1953. The first cases were reported in the latter half of December in persons living in the vicinity of the International Airport of Ciampino (Rome). An outbreak had been previously reported at the beginning of the same month in the United States in the state of Missouri and simultaneously in Tokyo. These might have been the initial foci from where the epidemic spread. The course of the disease in the authors' patients was typical, with a sudden onset, chills, indisposition, pain in the muscles and joints, headache, cough, and elevated temperature. The only atypical symptom was vomiting, which appeared on the first or second day of the illness and lasted no longer than 24 hours. It had all the characteristics of a cerebral vomiting, probably of toxic pathogenesis. Besides tracheobronchitis, there was involvement of the Eustachian tube, middle ear, and paranasal sinuses, especially during the later period of the epidemic. Studies on the blood serum of 72 patients indicated that an A′ virus was responsible for the epidemic. The throat washings of 10 patients were inoculated in embryonated eggs, and two strains of virus were isolated. According to the authors and the World Influenza Center in London, these strains resembled closely the 1950-1951 Scandinavian type. They were called A-Rome (1-53) and A-Rome (7-53).

Presse Médicale, Paris

61:805-824 (June 6) 1953. **Partial Index**

*Effect of Certain Pyrazol Derivatives on General and Functional Symptoms in Serofibrinous Pleurisy and Pulmonary Tuberculosis. M. Pestel and A. Ravina.—p. 805.
*Results of Treatment of 115 Cases of Hyperthyroidism with Radioactive Iodine. M. Tubiana, J. Dutreix and M. Grinberg.—p. 807.
So-Called Deceptive Aspects of Bronchopulmonary Cancer. M. Rymer, P. Weiller and E. Habib.—p. 809.
Practical Utilization of ACTH by the Intramuscular Route in Combination with Depot-Penicillin. E. Aron and R. Lecomte.—p. 811.

Effect of Pyrazol Derivatives on Serofibrinous Pleurisy and Pulmonary Tuberculosis.—The mediocre results obtained with antibiotics in patients with tuberculous serofibrinous pleurisy prompted a trial of anti-inflammatory substances. A combination of phenylbutazone and aminopyrine in equal quantities, known in Europe as Irgapyrin and in America as Butapyrin, was used first; later, the second derivative, phenylbutazone (Butazolidin), was used alone. Fever disappeared rapidly in all the pleuritic patients treated with these drugs and they obtained pronounced relief of pain and dyspnea. Similarly good results were secured in patients with pleurisy complicated by pulmonary lesions; even patients with pulmonary tuberculosis who were virtually in extremis when brought to the hospital became less fatigued and dyspneic after receiving the drugs. The effect of the pyrazol derivatives was seen chiefly in the general condition; the temperature fell rapidly, sometimes to 36 or 35 C, and this decline was accompanied by a feeling of relief, cessation of chills and malaise, and improvement of the functional symptoms. Physical signs, on the other hand, were unchanged and the course of the pleural process was apparently unaltered. The beneficial effect of the drugs seems to be the result of their anti-inflammatory and anticongestive action, and this fact may well lead to a reconsideration of the significance of general inflammatory phenomena in the development of pulmonary tuberculosis. Recognition of the antalgesic effect of the pyrazol derivatives in numerous disorders is increasing; the rapid relief they afford in pleurisy and severe tuberculosis makes their prompt administration to patients with these conditions advisable.

Radioactive Iodine Treatment in Hyperthyroidism.—I^{131} is the treatment of choice in all cases of hyperthyroidism in which surgical procedures are contraindicated. Improvement does not usually become apparent until one month after ingestion of the therapeutic dose, and a definitive estimate of the results of treatment cannot be made before the end of three months because the patient's condition may continue to improve throughout that period, and even afterwards in some cases. Adequate quantities of I^{131} first became available to the French in 1949; since then, 115 hyperthyroid patients, almost all of whom were ambulatory, have been treated at the Hôpital Necker and the Institut Gustave-Roussy, with excellent results in 66%, moderate results in 18%, and failure in 11%. Continued improvement under therapy in some patients or possible relapses in others may lead to revision of these figures. I^{131} is easily administered and free from immediate danger, but it should not be given to patients under 40 because of the possible late development of radiation injury. Pregnancy is an absolute contraindication to its use. It is well tolerated, even by patients in poor general condition and those with thyroid heart disease; some of the patients in this series gained from 20 to 40 kg. in weight and were enabled to resume a normal life. I^{131} acts by reducing the functional activity of the thyroid tissue; its effects resemble those of subtotal thyroidectomy, but the reduction in thyroid function is more gradual.

Revista Clínica Española, Madrid

49:151-218 (May 15) 1953. **Partial Index**

Metabolism of Uric Acid and Diabetes Mellitus. J. Andreu Urra and M. Ríos Mozo.—p. 160.
*Outbreak of Trichinosis Treated with ACTH. P. Alvarez Buylla, J. A. Llavona and P. F. Villarroya.—p. 168.
Pulmonary Nocardiosis. Two Cases. R. de Urioste and I. Medarde.—p. 173.
Physiopathology of Emotion. J. Simarro-Puig.—p. 181.

Corticotropin in Trichinosis.—Corticotropin (ACTH) and cortisone rapidly control fever and symptoms of trichinosis. Only three reports on the good results of these drugs in five cases have been reported in the literature. The authors gave corticotropin to eight patients in the acute stage of the typical disease with hyperleukocytosis, hypereosinophilia, and a strongly positive diazo reaction in the urine. The drug was given in an average daily dose of 60 mg. up to a total dose of from 180 to 980 mg. in from 3 and 18 days. The results were spectacular. Fever, dyspnea, muscular pain, stiffness and the nervous symptoms were controlled within 24 hours. The white blood cell count became normal, eosinophilia disappeared, and the diazo reaction in the urine became negative in some cases but not in all. Discontinuation of the treatment caused reappearance of the disease in one patient, although with milder symptoms. The disease was controlled by further administration of the drug for one week or 12 days. Cortisone was given to a patient for two days in a total dose of 500 mg. without effect. The authors believe that trichinosis is due to an allergic inflammatory reaction of the tissues which is favorably modified or controlled by corticotropin. The tissue reaction lasts as long as the parasites have not reached the phase of encystment which marks the period of asymptomatic latency of the disease. The diazo reaction in the urine is positive in the allergic phase and negative in the phase of encystment. The treatment should be continued until a negative diazo reaction in the urine is obtained.

Schweizerische medizinische Wochenschrift, Basel.

83-507-530 (May 30) 1953. **Partial Index**

Patients with Heart Disease. R. Siebeck.—p. 507.
*Loss of Hair After Anticoagulant Therapy. R. Fischer, J. Bircher and T. Reich.—p. 509.
Studies on Problem of Goiter: V. Structure of Goiter and Types of Goiter; Experimental Study. F. Blum.—p. 513.

Loss of Hair After Anticoagulant Therapy.—The authors examined 87 patients who six months to two years previously received anticoagulant therapy. Eleven patients had been treated with a synthetic heparin preparation (Thrombocoid), 25 with bishydroxycoumarin (Dicumarol), 11 with ethyl biscoumacetate (Tromexan ethylacetate), and 40 with pure heparin (Liquemin) or synthetic heparin followed by bishydroxycoumarin or ethyl biscoumacetate. Loss of hair took place in 5 (45%) of the patients treated with synthetic heparin alone, in 11 (44%) treated with bishydroxycoumarin alone, in 4 (36%) treated with ethyl biscoumacetate alone, and in 31 (78%) treated with heparin and coumarin preparations. The loss of hair was noted after an average latent period of eight weeks and continued for about six weeks on the average. The duration of the anticoagulant therapy and the age of the patients did not play a significant part. The incidence of loss of hair was relatively higher in women. The loss of hair was diffuse, similar to that of symptomatic diffuse alopecia after thallium poisoning or severe toxic conditions. Ten of the authors' patients had been given various proprietary vitamin preparations, such as vitamin C (Redoxon), a mixture of vitamin B_1 and acetylcholine chloride (Benerva), and vitamin B_1, B_2 and B_6 (Becozym) simultaneously with the anticoagulants, but the loss of hair was not affected by this combined treatment. The prognosis of the condition is favorable since growth of hair recurred in all patients except for two men in the families of whom other cases of alopecia occurred. Treatment of loss of hair is only of psychological value. At present no drug is known that could prevent the loss of hair.

Ugeskrift for Laeger, Copenhagen

115:831-878 (May 28) 1953. **Partial Index**

*Renal Osteodystrophy. Review. P. J. Dragsted and H. Hjorth.—p. 831.
*Improved Results in Treatment of Bronchogenic Cancer. J. L. Hansen and T. Kjaer.—p. 836.
Polyethylene Protheses for Tympanic Membrane and for Middle Ear. J. Falbe-Hansen.—p. 841.
Heart Patients and Rest in Bed: "Bed Chair." C. S. Schwensen.—p. 849.
Pelger-Huet's Nuclear Anomaly ("False" Shifting to Left). C. M. Plum—p. 853.
Thornell's Operation in Bilateral Paralysis of Recurrent Nerve. J. C. Nielsen.—p. 855.

Renal Osteodystrophy.—Dragsted and Hjorth discuss the different forms of renal rachitis and osteomalacia. Based on pathogenesis and clinical symptoms, a distinction is made between renal osteomalacia due to glomerular affection and that due to tubular affection. The bone disorder of the first group depends on acidosis in combination with phosphate retention. Roentgenologically it is manifested as an osteitis fibrosa cystica. Bone disorders of the second group are partly congenital and depend on reduced phosphate reabsorption in the tubuli; the glomerulus function is normal. The lowered phosphate reabsorption may be combined with reduced reabsorption of glucose, amino acid, potassium, water and with disturbances in the renal regulation of the acid-base equilibrium of the organism. In adults the symptoms are osteomalacia, possibly with Milkman fractures, and in children, dwarf growth. The characteristic changes in blood chemistry are low serum phosphorus and increased alkaline phosphatase. In cases accompanied by disturbances in acid-base regulation there is hyperchloremic acidosis. Treatment consists in administration of vitamin D in doses up to 500,000 units daily together with calcium phosphate, under control of the serum calcium and serum phosphorus, and in cases with acidosis, correction of this with sodium citrate.

Improved Results in Treatment of Bronchogenic Cancer.—Hansen and Kjaer's material consists of 638 consecutive cases of verified primary bronchogenic cancer treated from 1944 to July, 1952. During the first three years resection could be successfully carried out in only 8.1% of the cases: now the percentage is 41.6. During the first five pneumonectomy was necessary in 88.1% of the resectable cases; in 1951-1952 pneumonectomy was done in 59.4%, bilobectomy in 9.4%, lobectomy in 20.8%, and segmental resection in 10.4%. The mortality in hospital and during the first two weeks after discharge has been about constant, around 25%. It is twice as high in pneumonectomy as in smaller resections. Increased attentiveness of physicians and patients to early symptoms of cancer of the lungs and more frequent intensive examination of all cancer suspect pulmonary diseases together with cooperation with the central tuberculosis station have contributed to the progress in the fight against cancer of the lungs.

BOOK REVIEWS

A Handbook of Radiotherapy. By Walter M. Levitt, M.D., F.R.C.P., F.F.R., Associate Physician to Department of Radiotherapy, St. Bartholomew's Hospital, London. Cloth. $6.50. Pp. 232, with 53 illustrations. Paul B. Hoeber, Inc. (medical book department of Harper & Brothers), 49 E. 33rd St., New York 16, 1952.

The author, an experienced radiotherapist, has compressed most of the essentials of radiotherapy into a small book. In such a concentrated presentation it is necessary to pick and choose, especially when traversing growing and changing fields, but the philosophy and the technique outlined here have as wide and well-founded an acceptance as any that could be presented. The first three chapters are devoted to radiation physics and apparatus. Next are two chapters on radiobiology and its clinical relationships. Chapter 6 covers the management of the patient receiving radiation. The remainder of the text presents the principles of management and of treatment technique in malignant, and some benign, diseases, with a chapter devoted to each of the anatomic areas or systems of radiotherapeutic interest. The illustrations are well chosen diagrams, photographs, and radiographs. One appendix is a summary of the Portmann classification of breast carcinoma and of the League of Nations classification of uterine cervix carcinoma. A second appendix is an abstract of the International Recommendations on Radiological Protection (Sixth International Congress, 1950). There is an adequate index and a small bibliography of limited value.

The author has confined his discussion closely to radiation therapy, so closely, in fact, that no mention is made of the mustard compounds in the treatment of the malignant lymphomas, or of hormones in breast cancer. On the other hand, surgery, when the primary, alternative, or supplementary treatment, is adequately presented in its proper perspective. Mention of the artificial radioisotopes is confined to the clinically established P^{32} and I^{131}. They are presented as part of the general discussion of the treatment of those diseases in which they are of value. One short paragraph about metastatic tumor deposits in bone does not give the subject quite the consideration it warrants. The book is practical rather than theoretical. It is too concise for the unaided novice in the field. It is well adapted to the needs of the postgraduate student and to the general practitioner of radiology.

A Treatise on Hygiene and Public Health with Special Reference to the Tropics. By Birendra Nath Ghosh, F.R.F.P.&S., F.R.S. Thirteenth edition. Cloth. Rs. 17/8; 25s. 6d. Pp. 787, with 151 illustrations. Scientific Publishing Co., 85, Netaji Subhas Road, Calcutta-1, 1953.

The fact that this textbook is now in its 13th edition is ample evidence of its value and popularity. The author possesses Scottish fellowship qualifications and is well acquainted with the topics traditionally taught in courses of hygiene and public health in the universities and institutes of public health in the United Kingdom. Revision of the text necessitated the rewriting of certain sections and the adding of others. The text is profusely illustrated with diagrams, photographic reproductions, and tables. Much of the text appears in smaller type than the ordinary reading type, and thus a compendium of detailed information is compressed into small bulk, a veritable *multum in parvo*. The greater part of the book is taken up with environmental hygiene, discussing such subjects as water and water supply, air and ventilation, the soil and its formation, housing, disposal of refuse and human excreta, sewage disposal, climate and meteorology, village sanitation, sanitation of fairs and religious festivals, and camp sanitation. These chapters reflect the state of the public health in an overpopulated country like India. The chapters on food, diet, and vegetable and animal foods contain frequent references to conditions in India. The statement (page 225) that flash pasteurization of milk does not give a satisfactory result is unacceptable.

There are interesting chapters on mental hygiene, maternity and child welfare, medical inspection of schools, infection and carriers of infection, animal parasites, epidemiology and preventable diseases, and vital statistics and statistical methods. The final chapter deals with social medicine but is rather disappointing, as it appears to confuse social medicine with socialized medicine. Ryle's concept might have been more explicitly outlined and examples quoted. The illustrations of the insect vectors of disease in chapter 21 would be improved by an indication of size. The newer knowledge of the exoerythrocytic cycle of the malaria parasite in chapter 24 is described, but the schematic representation of the life cycle would have benefited by a color plate. The technique of performing the Schick test (with control) and the reading and interpretation of the tests should have been more carefully described. Recent work has shown that 1/100 to 1/250 unit is a more probable level of diphtheria antitoxin per milliliter of blood serum than 1/30 unit in a negative Schick test. The text suffers from blemishes in frequent errors in spelling and in terminology and could not be recommended for medical students in North American universities.

Essential Urology. By Fletcher H. Colby, M.D., Chief of Urological Service, Massachusetts General Hospital, Boston. Second edition. Cloth. $8. Pp. 650, with 352 illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2, 1953.

It is refreshing to read this excellent book. The volume has been designed for use by medical students, residents in urology, practicing urologists, and general practitioners. The text is divided into three parts. The first portion includes the embryology, anatomy, and physiology of the genitourinary organs. The second division deals with the examination of the urologic patient. The last, and largest, section embraces a comprehensive discussion of the diseases of the genitourinary tract. The book contains eight charts. The figures are composed of urograms, anatomic drawings, photographs, and photomicrographs. The bibliography is recent, relevant, and critically selected.

The author states that his objective is "to give the important facts of embryology, anatomy, physiology, and diseases of the genitourinary organs." The preceding statement is a key to the reason for the outstanding quality of this book. Unlike many works in the field of medicine this book is largely based upon sound experimental evidence and not on clinical impressions. The author is to be commended for his ability to separate the "wheat from the chaff." The material is presented in a uniform and lucid style. It is believed that the text could be improved in some respects; for example, in the section on examination of the urological patient, greater emphasis should have been placed on the significance of hematuria and the type of examination almost invariably required when this sign appears. This book is highly recommended to students, residents, urologists, and practitioners of medicine in general.

The 1952 Year Book of Obstetrics and Gynecology (July, 1951-June, 1952). Edited by J. P. Greenhill, B.S., M.D., F.A.C.S., Professor of Gynecology, Cook County Graduate School of Medicine, Chicago. Cloth. $5.50. Pp. 575, with 98 illustrations. Year Book Publishers, Inc., 200 E. Illinois St., Chicago 11, 1952.

This valuable yearly review of obstetrics and gynecology is ably edited to present abstracts of publications of the past year considered most important in these fields. The result is an excellent review of the literature punctuated by cogent editorial comment.

These book reviews have been prepared by competent authorities but do not represent the opinions of any official bodies unless specificially so stated.

QUERIES AND MINOR NOTES

WORK IN URANIUM MINES

To the Editor:—*A man has been working in a uranium mine for three and one-half months. He works nine hours daily in the mine, and the ore mined contains from 0.2 to 0.7% uranium. No attempt is made to determine the degree of contamination among the workers, who wear ordinary work clothes, but there is extreme radioactivity in the mine as determined by a Geiger counter. To date, this man has felt no ill effects. Is it dangerous for him to continue this work?* *M.D., Utah.*

Answer.—The radioactivity of most uranium ore is so low that damage from uranium would be more significant from the standpoint of chemical toxicity than from that of radioactivity. Absorption from the intestinal tract of uranium as present in ore is extremely slight. The chief hazard in a uranium mine, if the ore is in hard rock, is silicosis. So far as radioactivity is concerned, the significant hazard in a uranium mine again is not from the uranium itself but from the associated radon, which is usually present as a contaminant of the air. The risk related to radon varies with its concentration and with the amount of dust on which its decay products may be precipitated. The concentration varies from mine to mine. It may be controlled by ventilation. Long exposure to radon-contaminated air may be tolerated before there is evidence of harm. Most of the bronchial cancers encountered in the Schneeberg uranium miners did not develop until after 17 or more years of exposure to unfavorable conditions.,

UNEXPLAINED SWELLINGS

To the Editor:—*In a 17-year-old boy swelling of the right ear developed two years ago, persisted for eight months, and then slowly regressed. Six months later the opposite ear underwent a similar enlargement and regression. During this time the boy felt well. A year after the last episode of edema, the muscles of the right leg gradually enlarged until the circumference was about one-third greater than that of the left leg. There was no skin edema and no swelling at or below the ankle. The muscular strength, amplitude, and tendon reflexes were normal. There was no tenderness and no tumefaction. The muscles felt tenser than those in the other leg but otherwise showed nothing remarkable. The overlying skin was the same as that of the other leg. A careful exploration of the involved muscles by an orthopedic surgeon revealed nothing except questionable edema in the fascial planes. Results of several biopsies were reported normal by a competent pathologist. After the biopsy, the wound healed more slowly than would be expected; however, the initial enlargement gradually receded in three weeks. The boy is husky and has felt in excellent health. No difficulty was encountered with the enlarged leg except slight stiffness. Results of urine and blood tests were normal as was the erythrocyte sedimentation rate. The patient's history is normal, except for the usual infections of childhood, which were without notable complications. At no time has there been joint involvement or any indications of so-called collagen disease. What is your opinion?* *M.D., Washington.*

Answer.—This consultant once studied a case in certain respects similar to the one described. The patient complained of edema of the left lower forearm and back of the hand, which appeared in separate attacks over 24 hours as diffuse, somewhat indurated, nonerythematous, nonpruritic edema. It would occur from the midforearm to the fingers. On two occasions, the rapidity of onset necessitated the cutting off of a ring. After four or five hours, the edema was painful enough to require use of analgesics. The pain seemed to be related to overdistention of tissues, since the ends of the fingers became somewhat pale and cool during the attack. The radial pulse persisted. Once the edema formed, it took two to three weeks to subside completely. Prompt use of serial injections of epinephrine did not interrupt the onset or shorten the spells. The patient was admitted to the hospital for extensive laboratory studies. A thorough search for allergens, bacterial infection, and metabolic disorders was fruitless. The patient's attacks occurred with mental pressure. When the patient's job was changed, they ceased. The final impression was that they were some bizarre form of angioneurotic edema. No cause except a psychosomatic one could be found. The tendency for the same area of the body to be attacked repeatedly, as occurred in both patients, suggests that these two syndromes may belong to the same class of disorders.

VITREOUS HEMORRHAGE

To the Editor:—*What is the treatment for massive vitreous hemorrhage of unknown origin? In the absence of intraocular infection, would there be a possibility of posterior synechiae and would atropine be indicated immediately on the supposition that there might be infection? If so, for how long a period?* *M.D., Missouri.*

Answer.—There is no adequate medical treatment for massive vitreous hemorrhage of unknown origin. Evacuation of blood by cannula or scleral incision has been helpful in some cases, but is considered an extreme measure of last resort in cases of secondary glaucoma. In the absence of intraocular infection there is the possibility of posterior synechiae, but atropine is not indicated except in the presence of subnormal intraocular pressure. Instillation of miotics and gentle massage to prevent abnormally high intraocular pressure are indicated. In cases of recurrent intraocular hemorrhages, if intraocular pressure remains normal or low, dilatation of the pupil is desirable and atropine may be used indefinitely unless signs of intolerance or toxicity appear. Atropine will not be helpful if the pupil cannot be dilated.

ROUTINE TESTS FOR ALBUMINURIA

To the Editor:—*In the routine office determination of qualitative albuminuria, please compare the heating method with the nonheating chemical methods.*
Leonard Casser, M.D., Cresskill, N. J.

Answer.—The degree of sensitivity of the common qualitative tests for the detection of proteinuria is markedly dependent on the use of clear urine and on observation of the precipitated or heat coagulated protein against a black background. Most specimens must be cleared by filtration or centrifugation before testing. Under optimum conditions, all tests are sensitive enough to detect protein at the pathological level and to avoid positive indications of the small amounts normally excreted. For routine office use, heating methods are generally preferred. The heat and acetic acid or the Purdy heat test is preferred because either is slightly more sensitive than the cold tests and, in addition, because either can be made fool-proof against other substances, such as proteoses, mucin, Bence-Jones protein, resinous and emulsifying agents, and phosphates. It is recognized that the sulfosalicylic acid test is a good one under office conditions, especially when the mixture is warmed (not boiled) to detect proteoses. It is a bit less sensitive than the heat and acetic acid test. The need is not for greater sensitivity but for the recognition of conditions in the urine that may cause false positive reactions.

The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically so stated in the reply. Anonymous communications and queries on postal cards cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.

TRICHLORETHYLENE (TRILENE) ANESTHESIA

To the Editor:—*Please give the indications for and contraindications to the use of trichlorethylene (Trilene) anesthesia in obstetrics. What toxic agent is produced by the mixture of trichlorethylene with soda lime, and what is its physiological effect on the body? How soon after trichlorethylene has been used may a different anesthetic be used through the soda lime?* Cloid D. Green, M.D., Canton, S. D.

Answer.—Trichlorethylene should be used for analgesia only. The mixture provided by the simple inhalers on the market usually consists of 0.65% trichlorethylene in air, not sufficient for deep anesthesia. Its use is contraindicated in patients who have respiratory difficulty or cardiac decompensation, because a high oxygen saturation is an important safeguard. The various analgesic agents, such as morphine and its derivatives, meperidine (Demerol), the barbiturates, and scopolamine do not interfere with the administration of trichlorethylene, but the concomitant use of epinephrine is contraindicated. Trichlorethylene should not be used in a closed anesthetic system. In the presence of soda lime and heat (125 C), trichlorethylene may be broken down into the poisonous gas phosgene (carbonyl chloride) and hydrochloric acid. Although the circumstances under which this change can occur are extremely rare, it should be guarded against. The early signs of drug toxicity are increased respiratory rate and irregularity of the pulse. If these signs occur during administration of trichlorethylene it should be discontinued. Any anesthetic agent can be used for the delivery following use of trichlorethylene; however, a short interval should elapse so it can be exhaled completely. Although the drug passes through the placental barrier readily, it does not increase the hazard of fetal anoxia, because of its rapid elimination.

PAIN AND SWELLING IN BOTH KNEES

To the Editor:—*A 14-year-old boy was hospitalized complaining of pain and swelling in both knees of four days' duration; he had no previous history of this nature, no history of previous respiratory infection, and no history of gonorrhea. Physical examination showed bilateral heat and effusion in both knees, which were tender to touch. Physical and electrocardiographic examination revealed no cardiac abnormalities except sinus tachycardia. The temperature ranged between 100 and 101.6 F for the first four days of salicylate therapy (8 to 10 gm. of sodium salicylate daily), then fell to normal. He improved subjectively, but the effusion and heat of both knees continued. His right knee was tapped, and 10 cc. of turbid straw-colored fluid was withdrawn. The laboratory reported "many pus cells" in the fluid, but no organisms were seen on smear or culture. Following this examination, he had a 13 day course of penicillin therapy; with omission of salicylates, low grade fever returned. There have been no changes in his cardiac status during this time, and no other joints have been affected. Is a purulent synovial effusion consistent with a diagnosis of acute rheumatic fever, or is another form of arthritis a more likely diagnosis?* M.D., Arizona

Answer.—A 14-year-old boy with fever and bilateral swelling of the knees has rheumatic fever until it is proved otherwise. This probability is increased by his temperature drop with salicylates and recurrence of fever during penicillin therapy. Turbid, straw-colored fluid is not necessarily purulent in character. The laboratory report of "many pus cells" also is very incomplete, as no quantitative count or differential count was made. It is therefore not possible from the laboratory report to know whether the effusion was truly purulent or not. A purulent effusion is not compatible with rheumatic fever. It is quite probable that the diagnosis is rheumatic fever and the joint fluid not purulent. Juvenile rheumatoid arthritis (Still's disease) must be considered in the diagnosis. If the boy recovers with salicylate and rheumatic fever treatment, however, the diagnosis of rheumatic fever is fairly well established. If the joint effusions are definitely purulent, then cultures should reveal the organism responsible. If cultures are positive, then sensitivity tests against various antibiotics should be made, as penicillin already has proved ineffective.

BURNING PAIN IN FOOT

To the Editor:—*A woman, 82 years of age, is in good health except for frequent burning pain in her right foot. The pain is always in the same spot in the instep, is severe, and is apt to be felt most when the patient's feet are warm. It is relieved somewhat by cooling of the foot. The skin temperature in this foot is definitely higher than that in the left foot. Arterial pulsations are unusually good for a woman of this age. Pernicious anemia has been ruled out, the gastric contents and blood picture being normal. One year ago the patient had bilateral swelling of both feet to such a degree that walking was difficult. The swelling did not extend above the ankles. There was no dyspnea or evidence of myocardial insufficiency. Foot roentgenograms were normal. The swelling subsided in two to three days with ammonium chloride therapy and elevation of the feet and has not recurred. The patient has been examined by the best peripheral vascular disease specialists in Detroit. Have you any suggestions as to diagnosis and treatment?*

M.D., Michigan.

Answer.—Burning pain in the feet relieved by cooling and elevation and aggravated by heat and dependency is due to erythromelalgia, which is a symptomatic, not an etiological, diagnosis. If polycythemia can be excluded, there remains a group of toxic, nutritional, and ischemic neuropathies that may be considered. A thorough neurological examination is desirable, since an irritative process in the sensory neurons anywhere from the thalamus to the sensory nerve endings may be present. The lesion may well be vascular, producing ischemia of the nervous system. Treatment is highly unsatisfactory. Repeated blocks of the posterior tibial nerve may be tried, but if this produces anesthesia without relief of the burning sensation, the origin of the lesion is higher and may even be due to spinal cord ischemia. Administration of large doses of acetylsalicylic acid or of vitamin B_{12} by injection or possibly even sensory nerve section at appropriate levels is necessary. If the burning pain is unrelieved by spinal anesthesia (a highly debatable procedure at the age of 82), thalamic pain sometimes may be alleviated by stellate ganglion block contralateral to the side of the lesion.

MYOCARDIAL INFARCTION

To the Editor:—*A 61-year-old man, previously in good health, had within six weeks four attacks of severe pains of a tearing, cutting, and burning character in both arms, which lasted for 15 minutes and stopped suddenly. These attacks were unrelated to effort, but, after a symptom-free interval of four weeks, pains on walking developed in the right arm, in the right shoulder region, and/or below the right scapula. The pains stop when the patient stops walking. He has tenderness in the right upper abdominal quadrant and rebound tenderness in the same area. X-ray examinations showed gallstones and osteoarthritic changes in the cervical spine. A resting electrocardiogram was normal, but an exercise test was followed by significant changes. The pains on walking can be prevented to some extent but not entirely by use of glyceryl trinitrate. Does this man have coronary disease or are the symptoms manifestations of cholecystitis and pericholecystitis, with secondary coronary insufficiency, indicating a need for surgical intervention, or is cervical osteoarthritis to be considered a cause?*

M.D., New York.

Answer.—The combination of effort pain relieved in part by use of glyceryl trinitrate and a "positive" exercise tolerance test indicate myocardial insufficiency. The description of intermittent tearing pain in both arms strongly suggests a dissecting aneurysm of the thoracic aorta; both this and the coronary artery disease may be manifestations of underlying, generalized atherosclerosis. Neither cholecystitis nor cervical osteoarthritis is unusual in this age group, and their presence is probably coincidental. It seems unlikely that they are the primary cause of this man's symptoms in the chest and arms. Cholecystitis may be responsible for the right upper abdominal quadrant and abdominal rebound tenderness.

AZOOSPERMIA

To the Editor:—*The reply to the query in* The Journal *July 18, 1953, page 1184, regarding the treatment of azoospermia is misleading. The particularly disturbing statement concerned the value of testicular biopsies and therapy based on such findings. It was said that "If the biopsies show temporary arrest due to pituitary insufficiency, injections of a potent pituitary product may be beneficial." I would like to offer four protesting points.*

1. It is impossible to diagnose a condition of "temporary arrest" of spermatogenesis on the basis of a testis biopsy alone. Conceding that there is a clinical entity of arrested spermatogenesis, the use of the term "temporary arrest" intimates a transitory state, or one that can be improved. Actually, azoospermia due to arrested spermatogenesis in the adult is a permanent condition. Cases cited in the literature of the successful hormone treatment of arrested spermatogenesis are so rare that one even doubts its attainment. For example, Simmons (Ann. New York Acad. Sc. *55:643, 1952) reports a case that was successful, but this man did not have spermatozoa in his semen either before or after the birth of his wife's two children. Apparently this author doubted the paternity by stating "Clinical patients cannot be as scientifically controlled as Carl Hartman's monkeys!"*

2. Again, how can one be certain that the arrested spermatogenesis is due solely to pituitary insufficiency? Factors are involved other than the pituitary function, and these cannot be evaluated solely by testis biopsies. Hormone and other studies must be made to try to arrive at the etiological basis, and even then it is not easy to determine the causative factor.

3. The term "potent pituitary product" is itself misleading. There are many pituitary-like and pituitary gonadotrophic substances available commercially, but in general these gonadotrophic substances are not purified extracts nor are they efficacious. Only recently has a truly "potent" anterior pituitary gonadotrophic substance been isolated in pure form that is highly potent; however, this product is not yet available on the commercial market.

4. Finally, it should be pointed out that injections for azoospermia, whether they be from the pituitary, testis, or other source, have hardly ever resulted in offspring. Injection therapy for azoospermia has been overdone; and injection therapy for azoospermia with present-day products must be reduced to a minimum if used at all. For example, at the recent World Congress on Fertility and Sterility in New York City in May, 1953, it was generally agreed that aside from surgical therapy in cases of a blocked vasa deferens and preventive therapy in young men, injection therapy with hormones of any type had not proved to be of any value in complete azoospermia.

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VACCINATION OF CHILD WITH ECZEMA

To the Editor:—*I would like to comment on the answer in* The Journal, *Aug. 1, 1953, page 1392, to the question of whether a child with atopic dermatitis should be vaccinated against smallpox. Your consultant states that it is not necessary to withhold smallpox vaccination in such cases. I believe that most dermatologists agree that the risk of eczema vaccinatum as a direct consequence of such vaccination far outweighs the protection afforded against the almost extinct disease smallpox. I am informed by the Los Angeles Health Department that only 16 cases of smallpox were reported in the United States in the first half of 1953. The physician should bear in mind that far from being a benign disease, eczema vaccinatum is nearly always serious and occasionally fatal. Also the absence of any specific agent such as an antibiotic for the treatment of infections caused by vaccinia virus renders the management of this disease especially difficult. The answer given is further confused by the statement that "A kaposiform eruption of the varicelloid or herpetic type may develop." This is obviously in error, since this latter disease is caused by the herpes simplex virus and bears no etiological relationship to eczema vaccinatum. In view of the heavy risk involved with only a relatively small gain in prospect, the vaccination of a child with atopic dermatitis would seem to be a risky and unreasonable procedure.*

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Beverly Hills, Calif.

To the Editor:—*In* The Journal, *Aug. 1, 1953, page 1392, is an answer regarding smallpox vaccination of a child with eczema. This should be a case particularly suitable for the skeptophylactic method of vaccination described by me in the* Annals of Allergy *(9:85-88 [January-February] 1951), which is so-called because of the rapid evolution of the second or intradermal injection, resulting in an immune reaction rather than a primary take. Advantage is taken of the difference in incubation periods between infection in the skin and in subcutaneous tissues. The virus is injected first subcutaneously; then a week later before inflammation begins, a second injection is given intradermally. The second injection causes a papule within 24 hours, and neither becomes painful in children if Cutter's vaccine is used. There is no material to be transferred to another site. One capillary tube of virus is mixed with 1 ml. of saline solution, and 0.05 ml. is given at each injection.*

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James Street Clinic, Cleburne, Texas.

TREATMENT OF RECTAL PROLAPSE

To the Editor:—*I would like to comment on the answer on the treatment of rectal prolapse in Queries and Minor Notes, April 18, 1953. The following statement was made: "Rectal prolapse in infants and children is mucosal in almost every instance." This has not been our observation in this section of India. The greater number of patients that we see here have a true prolapse involving all the layers of the bowel. In severe and in long standing cases in which there are changes in the bowel wall that may amount to ulceration—such cases are seen frequently in children of poor village families—we have had very good results from amputation of the prolapse, in the manner of Mikulicz, with anastomosis of the cut edges of the bowel, which then is replaced within the anus. A purse string suture of silk is placed at the anal orifice and tied loosely around a finger. This prevents the infant from straining to pass the area of anastomosis and thus cause a recurrence of the prolapse. This suture is maintained for one to two weeks, during which time the stools are kept soft. Infants stand this procedure very well, and the amount of shock is minimal. In mild and in early cases, replacement of the bowel with strapping of the buttocks has been our treatment of choice.*

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SOFTENED WATER

To the Editor:—*In Queries and Minor Notes in* The Journal, *Aug. 8, 1953, page 1498, I note a question on softened water. The process of water softening is replacing the magnesium and calcium with sodium. Hence the water has a high sodium content. That is why patients suffering from vertigo or dropsy often improve after combining distilled water with their medication.*

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PROLONGED LABOR

CLINICAL EVALUATION

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William M. Lester, M.D., Atlanta, Ga.
and
Joseph W. Pilkington, M.D., St. Petersburg, Fla.

The proper management of a long labor is one of the most difficult problems in obstetric practice. Long labor should be prevented if possible, but if prolonged labor does develop the physician should know how to provide the maximum safety for the mother and for the infant. He should be aware of the indications for, and the dangers of, operative intervention.

The purpose of this study is to evaluate clinically 158 cases of prolonged labor that occurred at Grady Memorial Hospital. The conditions found to be significant in these labors are discussed in their relationship to (1) the etiology, (2) the course of labor, (3) the indications for treatment, (4) the results for the infant, and (5) the type of labor to be expected if a later pregnancy occurs. For the cases reported here, the onset of labor is defined as the time at which the uterine contractions become painful and continue to produce dilatation and effacement of the cervix. The labor is considered as prolonged if the total elapsed time from the onset of labor until the delivery of the infant is 30 hours or longer and the infant weighs 1,500 gm. or more.

The 158 patients whose labors are evaluated in this paper were among a total of 19,159 women delivered under the supervision of the department of obstetrics and gynecology of Emory University at Grady Memorial Hospital between July 1, 1948, and Dec. 31, 1951. The incidence of prolonged labor was 0.8%. No maternal deaths occurred among the patients with prolonged labors during the years of this report. Stillbirths or neonatal deaths occurred in 33 infants of the 158 pregnancies, an infant mortality rate of 20.9%. The low incidence of prolonged labors and the high infant mortality rate reported here as compared with other studies[1] suggest that the onset of labor must have been timed rather strictly at Grady Memorial Hospital.

As a background for the interpretation of the results in this paper, the following information is given regarding the obstetric service at Grady Memorial Hospital. All of the patients are service cases and are delivered by the hospital house staff under the supervision of the members of the visiting staff of the department. The stillbirth rate for the service is 1.67%. The neonatal death rate is estimated at 2%; it cannot be determined accurately since it is necessary to discharge many patients very early in the puerperium because of a lack of bed space. The incidence of premature deliveries is 12%. The incidence of cesarean section during the years of this report was 0.72%.

ETIOLOGY AND INCIDENCE

Uterine inertia was the major cause for the prolonged labors in this study. Investigations have been made by other authors concerning the abnormal variations in uterine contractions and their significance in the etiology of prolonged labor.[2] The information in this report regarding the etiology of prolonged labor is limited to that which could be obtained from the clinical observation of the patients. Inertia was encountered in all except three, and in these the long labor was due to fetopelvic disproportion. Primary uterine inertia was encountered in 145 of the 158 patients. In 77% of all the cases, it occurred alone, without other complications such as disproportion. Because of the high incidence, it is evident that this paper is, in effect, a clinical evaluation of primary uterine inertia as a cause of prolonged labor. (The uterine inertia was secondary to oversedation or exhaustion in six patients, and in four it was secondary to fetopelvic disproportion.)

From the Department of Obstetrics and Gynecology, Emory University School of Medicine, and Grady Memorial Hospital.

Read before the Section on Obstetrics and Gynecology at the 102nd Annual Meeting of the American Medical Association, New York, June 4, 1953.

[1] Cosgrove, S. A., and Glisson, C. S.: Management of Prolonged Labor, South. M. J. 33: 185-190, 1940. Eastman, N. J.: Williams Obstetrics, ed. 10, New York, Appleton-Century-Crofts, Inc., 1950, chap. 29. Greenhill, J. P.: Prolonged Labor: Selected Clinical Problems, Obst. & Gynec. 1: 476-485, 1953. Reid, D. E.: Management of Problems Associated with Prolonged Labor, New York State J. Med. 48: 2601-2605, 1948.

[2] Hellman, L. M.; Harris, J., and Reynolds, S. R. M.: Characteristics of Gradients of Uterine Contractility During First Stage of True Labor, Bull Johns Hopkins Hosp. 86: 234-248, 1950. Jeffcoate, T. N. A.; Baker, K., and Martin, R. H.: Ineffective Uterine Action, Surg., Gynec. & Obst. 95: 257-273, 1952. Reynolds, S. R. M.: Physiology of the Uterus, ed. 2, New York, Paul B. Hoeber, Inc., 1949, chap. 5.

The presence of a disproportion between the infant and the maternal pelvis was determined from a review of the clinical opinions during labor, the presentations and positions of the infants, roentgenologic pelvimetry studies, and the actual weights of the babies after delivery. As determined by these conditions, fetopelvic disproportion was observed in 31 patients, but in almost all cases the degree of the disproportion was borderline. The roentgenologic pelvimetry studies, in general, confirmed the clinical impressions regarding the pelvic capacity and the size of the fetus. Uterine inertia was present in all except three of the cases of disproportion. The poor uterine contractions made it difficult to appraise the extent to which the disproportion itself contributed to the prolonged labor. The inertia made it almost impossible to obtain a satisfactory "trial labor" in most of the patients with borderline disproportion. The complications in the labors of patients with disproportion caused the death of 12 babies, an infant mortality rate of 38.7%, as compared with a 16.5% infant loss among the patients without disproportion.

The incidence of the types of presentations and positions of the infant varied from those encountered in normal labors. For cephalic presentations the position that persisted throughout most of the labor was occiput anterior in only 33 patients (20.9%), occiput transverse in 51 patients (32.3%), occiput posterior in 57 patients (36.1%), and persistent occiput posterior in 4 patients (2.5%). The presentation of one infant was a transverse lie. Breech presentations occurred in 12 of the patients, an incidence of 7.6%. The breech deliveries were the only ones in which a definite relationship could be established between the presentation or position of the fetus and the prognosis for the infant. Of the 12 breech presentations, six babies did not survive.

The weight of the infants affected their survival. Half of the 14 babies that weighed 4,000 gm. or more did not live, even though some of them did not show any evidence of a fetopelvic disproportion. The infant mortality rate was approximately the same (33%) for the 6 premature infants and for the 22 infants with weights ranging from 3,650 to 4,000 gm. The mortality rate was the lowest (14.7%) for the 116 infants weighing from 2,500 to 3,650 gm.

The age of the mother influenced the prognosis for the infant. The 71 patients under 20 years of age lost seven babies. On the other hand, the 25 patients over 30 years of age lost 12 infants.

A study of the parity of the patients in this series showed that 85.4% were primiparas. The infant mortality rate was twice as great for multiparas as it was for the primiparas. The 135 primiparas lost 24 infants (17.8%), and the 23 multiparas lost 9 infants (39.1%). The labors of the multiparas were complicated by a high incidence of fetopelvic disproportion (11 cases), breech presentations (5 cases), and large infants (eight weighing 4,000 gm. or more). An interval of more than 15 years had elapsed since the last previous delivery for four of the multiparas. Incidentally, the 23 multiparas had delivered a total of 65 premature or term infants before the prolonged labor of this report. Ten of the 65 infants were premature, and 7 of these had died. Seven of the 55 term infants did not live. Although complete records of all of the 65 previous deliveries are not available, no case of fetopelvic disproportion was found. A prolonged labor occurred with an earlier pregnancy in five of the multiparas, but the infants of those labors lived.

Rupture of the amniotic membrane before the onset of labor occurred in 18 of the 158 prolonged labors, and in 17 of these the rupture was spontaneous. The incidence of the premature rupture of the membranes was about normal, but the infant mortality was unusually high since nine of the babies were lost. Although the artificial rupture of the membranes was used to induce labor in approximately 150 women during the years of this study, a prolonged labor occurred in only one of the patients. (At Grady Memorial Hospital labors are rarely induced by the artificial rupture of the membranes except for a toxemia of pregnancy.)

ARREST OF PROGRESS IN LABOR

Progress during the course of labor was determined by the descent of the presenting part of the infant into the pelvis or by the dilatation or effacement of the cervix. Progress was considered to be arrested if, during a period of several hours, no significant change occurred in the descent, dilatation, or effacement. The slowing of progress in labor as a result of therapeutic sedation was not considered as an arrest. In the 158 patients in this group, progress was arrested in 153 of the labors. The arrest occurred before the end of 24 hours of labor in 118 of the patients. Only 16 women continued in labor over 30 hours before progress stopped. The arrest was primarily a problem of the first stage of labor. The labor of 100 patients became arrested while the cervix was dilated 4 cm. or less. At the time of the arrest, the cervix was dilated more than 6 cm. in only 20 cases.

Progress usually became arrested with a cervical dilatation of 4 cm. or less and after approximately 18 to 24 hours of labor. The attending physician should seriously consider the use of sedation or stimulation if these conditions begin to develop in the course of labor. The proper use of sedation and stimulation might maintain normal progress in labor and prevent many of the later complications. From the information in this study, however, it was impossible to predict the final length of the labor or the result for the infant from the variations in the time and in the cervical dilatation when the progress stopped.

The prognosis for the infant at the time of the arrest of progress could be predicted from the station of the presenting part of the infant and from the status of the amniotic membrane, whether intact or ruptured. The infant mortality rate was 15.4% if the presenting part of the infant had become engaged by the time progress became arrested, but it was approximately twice as great (28.8%) if engagement had not occurred. It can be seen from table 1 that the condition of the amniotic sac at the time of the arrest was considerably more important than the station of the presenting part. If the membranes had already ruptured at the time of the arrest, the infant mortality rate was 38.3%, or four times as great as when the membranes were intact at that time. The prognosis for the infant at the time of the arrest was much better if the membranes were intact, even with the presenting part unengaged, than it was if the membranes were ruptured even though the presenting part had already become engaged. The combination of the two conditions gave a better indication of the danger for the infant. The prognosis was poorest if the arrest took place after the membranes had ruptured but the presenting part was still unengaged. Over half of the infants (54.2%) were lost. The infant mortality rate in these patients was seven times as great as it was among those in whom the membranes were still intact and the presenting part of the infant was engaged at the time of the arrest.

TREATMENT TO IMPROVE PROGRESS IN LABOR

The three methods usually suggested to improve the rate of progress in labor are: rest or sedation, artificial rupture of the amniotic membrane, and pituitary extract. It is not the purpose of this paper to outline a specific plan of treatment for patients with prolonged labor. The treatment given to the patients in this study is reviewed to the extent that it appeared to affect the duration and the result of their labors.

Table 1.—*Prognosis for the Infant at the Time of Arrest of Progress in Labor**

	Condition of Amniotic Membrane at Time of Arrest								
	Ruptured			Intact			Totals		
Station of Presenting Part at Time of Arrest	No. of Cases	Infants Died	% Infants Died	No. of Cases	Infants Died	% Infants Died	No. of Cases	Infants Died	% Infants Died
Unengaged	24	13	54.2	35	4	11.4	59	17	28.8
Engaged	36	10	27.8	55	4	7.3	91	14	15.4
Total	60	23	38.3	90	8	8.9	150	31	20.7

* Of the 158 cases of this report, arrest did not occur in the labors of 5 patients, and information concerning 3 others could not be secured; 2 infants were lost in the 8 cases not included.

Table 2.—*Effect of Artificial Rupture of Amniotic MembraneAfter the Arrest of Progress in Labor*

	Membranes Not Ruptured Artificially			Membranes Ruptured Artificially			Totals		
Station of Presenting Part	*No. of Cases*	*Infants Died*	*% Infants Died*	*No. of Cases*	*Infants Died*	*% Infants Died*	*No. of Cases*	*Infants Died*	*% Infants Died*
Unengaged	22	3	13.6	13	1	7.7	35	4	11.4
Engaged	32	4	12.5	23	0	0	55	4	7.3
Total	54	7	13.0	36	1	2.8	90	8	8.9

Morphine combined with barbiturates was used for the therapeutic sedation of the patients of this report, but it was not possible to demonstrate that the sedation consistently affected the course of labor either favorably or unfavorably. After therapeutic sedation, an occasional patient had a definite improvement in the rate of progress and delivered quickly. Generally, however, progress seemed to be improved very little after the use of sedation. Although no definite benefit could be attributed to the therapeutic sedation, we believe that it proved valuable in maintaining the general condition of the patients and thereby preventing exhaustion. Sedation for the purpose of the relief of pain in labor (for analgesia and amnesia) interferred with the normal progress of labor in four cases by producing a secondary uterine inertia.

The most effective therapy found in this study for improving the progress of labor after it had become arrested was the artificial rupture of the amniotic membrane. In 90 patients, the progress was arrested while the membranes were still intact, and eight babies were lost. The effectiveness of the artificial rupture of the membranes can be seen in table 2. If the membranes were not ruptured artificially, the infant mortality rate was 13%, and it was approximately the same whether or not engagement had occurred before the arrest of progress. If the membranes were ruptured artificially after the arrest had occurred, the infant mortality rate was 2.8%. No prolapsed umbilical cords occurred from the rupture of the membranes, whether the rupture was spontaneous or artificial.

The prognosis for the patient's labor after an arrest could be predicted by the response to treatment combining the rupture of the membranes with the use of pituitary extract (unless a contraindication for pituitary extract was present). If the progress in labor was satisfactory after these means of treatment were instituted, a successful vaginal delivery could be predicted. If the progress was not satisfactory, the likelihood of a successful vaginal delivery was slight. In a prolonged labor it is often quite difficult to determine whether the amount of progress within a given period of time should be considered as a satisfactory response. The decision is made more difficult by the uterine inertia that is usually present. Treatment consisting of the use of pituitary extract (unless contraindicated) after the rupture of the membranes should be continued only as long as a successful vaginal delivery can be expected. A vaginal delivery should be considered successful if the cervix dilates completely and if a normal child is delivered without injury to the mother. It should be considered unsuccessful if the patient is delivered by cesarean section, vaginally before complete dilatation of the cervix, or vaginally of an infant that does not survive.

From table 3 it can be seen that a successful vaginal delivery occurred in 114 patients. If the patients had not delivered within eight hours after the rupture of the membranes and the use of pituitary extract (unless contraindicated), a successful vaginal delivery occurred in only half of the 59 cases. Under these circumstances, serious consideration should be given to cesarean section at the end of eight hours of treatment unless vaginal delivery is imminent. If cesarean section had been employed for all of the cases of this report in which the delivery was not imminent within eight hours after the treatment was begun, many disastrous operative procedures would have been avoided. The incidence of cesarean section for the 158 prolonged labors would have been 35%. If all of the infants from the additional cesarean sections had survived, the infant mortality rate for the study would have been 8%. Of course, as indicated by 14 cases in this report, it may become evident before the end of the eight hours of treatment that a successful vaginal delivery will not occur. In such patients, if cesarean section in indicated, it should not be delayed until the end of eight hours of treatment.

TABLE 3.—*Interval Between Treatment of Arrest in Labor by Pituitary Extract and/or Rupture of the Membranes and Delivery*

	Delivered Within 8 Hr. After Treatment Begun	Delivered Over 8 Hr. After Treatment Begun	Total
Successful vaginal delivery.........	85	29	114
Unsuccessful vaginal delivery.......	14	30	44
Total..........................	99	59	158

RESULTS FOR THE INFANT

The methods used for delivering the infants of this report are summarized in table 4. The length of the labor affected the results for the infant. The infant mortality rate for the 115 patients whose labor lasted less than 48 hours was 13.9% (16 deaths). For the 19 women whose labor lasted from 48 to 60 hours, the infant mortality rate was 21.1% (4 deaths), and for the 24 women whose labor lasted 60 hours or longer the infant mortality was 54.2% (13 deaths).

The underlying causes of death for the infants in this study were predominantly intrapartum fever and operative procedures for delivery. The 43 cases of labors lasting over 48 hours included 21 patients whose labors were afebrile. These 21 women lost five infants, but three of the five were delivered by difficult operative procedures. Labors lasting over 48 hours, without fever and without operative deliveries, ended with the death of only two infants, and both of these were premature babies.

It is logical to expect intrapartum fever to increase the danger to the infant because of the increased oxygen requirements from the temperature elevation.[3] If the fever in labor is of long duration, the requirement of more oxygen for the fetus could easily become critical and could cause a greater number of infant disasters. Fever of 1 degree (F) or more developed during the labors of 52 patients. The fever began during the first 12 hours of labor in 14 of the women, and seven of the babies were lost. The 36 women with fever less than 36 hours before delivery lost six infants. By contrast, the 16 patients who had had fever over 36 hours before delivery lost 13 babies (81.2%).

Operative deliveries, as shown in table 4, were associated with a higher infant mortality rate than spontaneous deliveries. It is true, however, that 8 of the 22 infants that did not survive after operative delivery died in labor before the operation was begun. If these eight infants are combined with the infants delivered spontaneously, it is found that the 109 patients lost 19 infants (17.4%) without operative interference. An operative delivery was begun in 49 patients while the infant was still living, and 14 babies (28.6%) did not survive.

The evaluation of the operative procedures listed in table 4 reveals that the incidence of cesarean section was 7.6% for the 158 prolonged labors. Fetopelvic disproportion was a contributing factor in the indications for cesarean section in 10 of 12 patients. Although 121 women in this study had a prolonged labor associated with primary uterine inertia, without evidence of fetopelvic disproportion, only 2 of them were delivered by cesarean section. These two cesarean sections were not performed until after more than 80 hours of labor; both infants died. (The teaching of this department and of this hospital is that primary uterine inertia can be an indication for cesarean section. The information in this report demonstrates that such a policy is not carried out in practice.) The failure to perform cesarean sections for primary uterine inertia among the cases of prolonged labor in this report provides the opportunity of studying the results to be expected if all cases of primary uterine inertia are delivered vaginally.

TABLE 4.—*Method of Delivery of Infants*

	Spontaneous	Assisted Breech	Breech Extraction	Low Forceps	Midforceps, Anterior Position	Midforceps Rotation	Duhrssen's Incisions	Craniotomy	Cesarean Section	Total
Survived	90	5	1	7	5	6	2	0	9	125
Neonatal death.............	5	0	1	1*	0	3*	3	0	1	14
Stillborn	6†	2*	1	0	0	3	1	4‡	2	19
Total..................	101	7	8	8	5	12	6	4	12	158

* Three infant deaths occurred after gross errors in operative technique at deliveries.
† Tight loop of umbilical cord about the neck of two infants.
‡ One infant was hydrocephalic, a frank breech presentation. (One of the 12 breech presentations was delivered by cesarean section.)

The significance of intrapartum fever and of operative deliveries as causes of infant mortality becomes more impressive if they are considered together. Fever during labor was present before the death of the infant in 19 cases. Fourteen infants died when operative deliveries were started while the baby was still alive. Only five infants died that had not been delivered after febrile labors or by operative procedures. One of these five labors was in a mother with eclampsia, one labor ended in the rupture of the uterus, and one of the five infants had a tight loop of umbilical cord around its neck.

COMPLICATIONS IN LABOR

Unusual complications developed in the labor of 14 patients. Tetany of the uterus was observed during the labor of 10 women, and seven of the infants died. The umbilical cord prolapsed while delivery was being attempted in two patients, and both infants were lost. Rupture of the uterus occurred in one case. It took place almost immediately after an intravenous clysis containing pituitary extract was begun to stimulate the labor of a multipara who was considered to have an adequate pelvis. A pathological retraction ring (Bandl's ring) developed in the labor of a patient with a hydrocephalic infant. The infant was a breech presentation, and the hydrocephalus was not recognized until the delivery began. The roentgenologic studies during labor had not demonstrated any deformity of the fetal head.

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[3] Best, C. H., and Taylor, N. B.: The Physiological Basis of Medical Practice, ed. 5, Baltimore, Williams and Williams Company, 1950, p. 621.

POSTPARTUM COURSE

Postpartum infections developed in 23 patients (14.6%). Endometritis was responsible for infection in 16 patients, parametritis in 2, pyelonephritis in 4, and bronchopneumonia in 1. Almost without exception, the morbidity in these patients was of short duration. Postpartum hemorrhage and shock were not a problem.

LATER PREGNANCIES

The subsequent pregnancies of the patients in this report were reviewed. By April 1, 1953, 77 of the 158 women had delivered a total of 101 premature or term infants after their experience of prolonged labor. The later pregnancies were strikingly normal in their duration and in the results for the infants. Only 16 of the 101 later labors lasted over 12 hours, and only 2 of these lasted over 24 hours. A prolonged labor occurred in only one later pregnancy. This labor lasted 31 hours, and it was terminated at that time by cesarean section. In the later pregnancies, three premature and two term infants died. Two of the five infants died before the onset of labor, and two premature infants, delivered after less than 12 hours of labor, died in the first day of life. One baby died after hemorrhage and shock developed during the labor of a patient with a placenta previa.

All except 12 of the later pregnancies were delivered spontaneously. Six women who had been delivered by a cesarean section at the prolonged labor of this report had eight later pregnancies again delivered by cesarean section. Two patients were delivered for the first time by cesarean section in a later pregnancy. The infant that died in the labor complicated by the placenta previa was delivered as an assisted breech. One 1,325 gm. infant, which died before the onset of labor, was delivered from a transverse lie by a version and extraction.

The later pregnancies of the women who had had primary uterine inertia in their prolonged labor were delivered after short labors, with the uterine contractions of normal character. Of 31 patients with fetopelvic disproportion complicating the prolonged labor, 13 had 17 later deliveries. Ten of the 17 later pregnancies were delivered by cesarean section.

SUMMARY

The 158 prolonged labors occurring among 19,159 deliveries are evaluated clinically. All of the mothers lived, but 33 of the infants died. Primary uterine inertia was present in the labor of 145 patients. It was the only etiological factor recognized clinically in 121 of the cases. Fetopelvic disproportion was found in 31 women, and 12 of the babies were lost (38.7%). The babies were delivered as breech presentations in 12 cases, and half of the infants died. Of the infants weighing 4,000 gm. or more, 50% did not survive. The age of the patient and her parity significantly affected the labor and its results. Patients over 30 years of age lost 50% of their babies. The patients were primiparas in 85% of the prolonged labors. Fetopelvic disproportion and/or presentations of the infant other than cephalic occurred in 65% of the multiparas.

Progress became arrested in 75% of the cases before labor had lasted 24 hours. The cervix was dilated not more than 4 cm. in 100 patients at the time that the arrest of progress occurred. If progress became arrested, with the membranes ruptured and the presenting part still unengaged, over 50% of the infants did not survive. The most effective treatment after the arrest of progress in patients with the amniotic membrane still intact was artificial rupture of the membranes. If the patients did not deliver within eight hours after the rupture of the membranes and the use of pituitary extract (unless contraindicated), the results obtained by vaginal deliveries were found to be unsuccessful in half of the cases. The 43 patients in labor over 48 hours lost 40% of their babies. The underlying causes of death for the infants were predominantly intrapartum fever or operative delivery. The patients who had had fever for more than 36 hours before delivery lost 81.2% of the infants. Elevated temperatures during labor or operative procedures at delivery occurred in all except two of the cases in which the infant died after 48 hours of labor.

The later pregnancies of the women whose prolonged labor had been caused by uterine inertia alone were delivered spontaneously, after short labors, with excellent results for the infant. In the patients with prolonged labor complicated by fetopelvic disproportion, over 50% of later infants were delivered by cesarean section.

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Tuberculosis.—Although we have thus artificially removed tuberculosis from our consciousness by removing its victim from our daily experience, the never-to-be-forgotten fact is that there are today some 35,000 to 40,000 persons with active tuberculosis in New York City alone, 400,000 in the United States, not to speak of the 50,000,000 tuberculous persons in the rest of the world. More than half of the adult population of our city reacts positively to tuberculin, a fact which proves that most of us are infected by contact with tuberculous persons in the course of our normal lives, and become, from then on, carriers of living, virulent bacilli. It is becoming evident that the morbidity rate is not falling as fast as the mortality rate. In New York City, for example, there were 17,645 known cases of pulmonary tuberculosis in 1931; the number was still 17,499 in 1952, 20 years later. And these figures do not tell the whole story, for it is well known that a large percentage of tuberculous patients (probably close to 50%) are never entered in official records and continue to forge unsuspected the chain of infection among their fellow men. In other words, we have been more successful in retarding death from tuberculosis than in protecting against infection or in curing the disease.—Rene J. Dubos, Biologic and Epidemiologic Aspects of Tuberculosis, *The American Review of Tuberculosis,* July, 1953.

CLINICAL OBSERVATIONS AND INTERPRETATIONS OF ABNORMAL AIR SPACES IN THE LUNGS

A NEW CONCEPT OF THEIR ORIGIN

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Abnormal air spaces in the lung parenchyma, such as cysts, bullae, and pneumatoceles, have been the subject of an increasing amount of discussion during the past 25 years. Large-scale roentgenographic surveys have revealed many such cases in which the lesions were clinically latent. Long-range observations have revealed their variable clinical evolution, and increasing numbers of surgical explorations have yielded data on their morphological features. All of this has thrown much new light on these remarkable pulmonary changes.

In view of all the accrued information there is now renewed discussion of cystic, bronchiectatic, and bullous lung changes. In recent literature there is increasing cognizance of the fact that these changes are related to each other and, in some manner, to emphysema, the essential basis of which is air space abnormality. Brief reading of current writings should convince us that there is now an urgent need for a better understanding of the pulmonary conditions associated with abnormal air space formation, since their incidence appears to be increasing and since we are beginning to make new approaches in treatment.

In a recent publication we have outlined a new concept of the common origin of cystic, bronchiectatic and emphysematous lung changes.[1] We will here discuss clinical observations and present the broader aspects of our concept by which all these phenomena can be reduced to the common denominator of air space disorder as a manifestation of abnormal lung function resulting either from developmental or from pathological changes in the lungs.

Some of the more important data regarding abnormal air spaces in the lungs gleaned from recent literature and borne out by our own observations are significant: 1. They are frequent clinical findings and their incidence appears to be increasing. 2. They are often present in a clinically silent state in otherwise healthy persons, revealed mostly as accidental roentgenographic findings. 3. Often they reveal themselves first by spontaneous pneumothorax, by sudden hemoptysis, by intercurrent infection, or by so-called pseudoasthma. 4. They are found at all ages and increase in frequency from childhood to advancing age. 5. In infants and children their incidence is already far beyond that conceivable for congenital anomalies. 6. They are often considered congenital, although clinical observation most frequently indicates acquired origin. This is so because there are often morphological features that to many pathologists suggest developmental rather than pathological origin. Against this origin, however, is the fact that such changes are exceedingly rare in the newborn and stillborn.

The various lung changes under discussion here are so often found combined that great confusion in nomenclature has resulted in such descriptive terms as cysts, bullae, pneumatoceles, cystic bronchiectasis, cystic emphysema, bullous emphysema, pneumocysts, vanishing lungs, and honeycomb lungs. This indicates, however, their close relationship to one another and to emphysema.

Development of air space disorders has been observed at all ages in patients whose lungs previously appeared normal. In infants and children particularly it is not uncommon to see such lung changes appear and disappear, enlarge in size, or alter in number over prolonged periods of observation. Dilatations of bronchi, for example, bullae, and their combinations may appear and then disappear in infants a few days or weeks old, or they may be followed by the formation of permanent cysts, pneumatoceles, or cystic bronchiectases. In some cases cystic or bullous structures increase in size merely by hyperinflation, due to mechanical obstruction of abnormal air spaces, with compression and displacement of the surrounding lung. In other instances, these structures seem to have increased by atrophy of lung structures, resulting in truly "vanished" lungs. In hyperinflated air spaces reversibility is frequently observed. Complete reversibility has been accepted as the criterion of pneumatoceles, but considerable extent of reversibility is common also in other air space disorders with fluctuations in the degree of hyperinflation and in the degree of patency of bronchial obstruction.

Operation of check valve obstruction has been demonstrated for cysts and bullae as well as for pneumatoceles. This has led to such confusion that distinction between them in practice has become virtually impossible, although it is often insisted on in theory. It becomes clear that this theory is no longer feasible, from the fact that even morphological differentiation is nearly impossible.[2]

In bronchiectatic conditions, there may be cystic distention of structures in some areas, while in others saccular and cylindric changes prevail. Also, at times cystic structures have been seen to shrink subsequently into sacculated and cylindric bronchiectases. It has been increasingly shown that cystic and bronchiectatic changes in the lungs, described as honeycomb lungs, may be associated with and perhaps produced by metabolic disorders. These include xanthomatosis, biliary cirrhosis, tuberous sclerosis, diabetes insipidus, pancreatic and pituitary insufficiency, lipoid granulomatosis, scleroderma, and reticuloendotheliosis. Recent experience has also shown that in diffuse extensive granulomatosis and fibrosis of the lungs, bullous changes resembling cysts

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Read before the Section on Diseases of the Chest at the 102nd Annual Meeting of the American Medical Association, New York, June 2, 1953.

1. Mayer, E., and Rappaport, I.: Developmental Origin of Cystic, Bronchiectatic and Emphysematous Changes in Lungs: New Concept, Dis. Chest **21**: 146 (Feb.) 1952.

2. Caffey, J.: On the Natural Regression of Pulmonary Cysts During Early Infancy, Pediatrics **11**: 48 (Jan.) 1953. Conway, D. J.: The Origin of Lung Cysts in Childhood, Arch. Dis. Childhood **26**: 504 (Dec.) 1951.

3. Deleted on proof.

are produced almost regularly if the process is severe enough. These include berylliosis, sarcoidosis, and atypical granulomatosis and fibrosis of the lungs. Furthermore, massive emphysema often develops acutely with abrupt production of bullae and cyst-like pulmonary changes in infants and young children afflicted with diffuse acute bronchopneumonias, especially of staphylococcic origin.

From clinical observations, borne out by recent literature, it is our impression that a shift from acute suppurative bronchiectatic to more chronic cystic and bullous changes is now taking place. With the advent of the antibiotic era a marked decrease has occurred in the incidence of bronchopulmonary suppurative processes associated with bronchiectatic changes, while that of cystic and bullous changes has increased. Suppurative bronchopulmonary processes treated with antibiotics are now frequently brought under control, leaving cystic residues indistinguishable from identical changes in cases without evidence or history of preceding inflammatory process. Also the clinicopathological picture of cystic residues of inflammatory processes and that of cysts complicated by infection are today more difficult to separate from one another.

CURRENT CONCEPTS AND PROBLEMS

The long list of confusing classifications of pulmonary air space abnormalities clearly shows that all efforts to bring order into their clinical and pathological interpretation have so far failed. The trend is to separate them into two groups: the developmental and the pathological. In the first group are classified localized abnormal air spaces characterized by morphological features that are interpreted by many pathologists as indicative of developmental origin; in the second group are classified localized or diffuse abnormalities the clinical appearance of which is much like that of emphysema. These are therefore identified with the latter and are looked on as manifestations or forms of it. The implications arising from these classifications have brought forth added problems.

Problem of Acquired Origin of Developmental Abnormalities.—Abnormal air spaces showing morphological features of a developmental nature have been generally accepted as indicative of congenital origin. At the same time, however, clinical observations have established that all but an insignificant few are of acquired origin. With this conflict there arose the problem of reconciling the features of developmental nature with those of acquired origin. In a recent publication [1] we discussed a concept that seemed a reasonable answer. We postulated that abnormal air spaces may develop on the basis of developmental defects that have arisen during the postnatal period of growth of the lungs, when metabolic disturbances have interfered with their normal postnatal development. In clinically manifest severe insufficiencies of pancreatic, hepatic, and pituitary origin, the metabolic disturbances are commonly associated with cystic and bronchiectatic lung changes. It is logical to assume that metabolic disturbances of lesser degrees interfering to a lesser extent with postnatal lung development may yet leave developmental defects in the lungs in latent form.

Substantial support in favor of this was found by Medlar [4] in recent pathological studies. He interprets his findings as indicating that developmental defects account for the origin of all bronchiectatic and some cystic changes in the lungs. Clinical observations have established the fact that bronchiectatic, cystic, and emphysematous lung changes are practically inseparable. We believe therefore that latent developmental defects may evolve later into abnormal air spaces, manifesting themselves in cystic and bullous changes. When such changes are present in localized form, it is a reasonable assumption that they could have originated in localized developmental defects. In lung areas so affected normal lung function has obviously failed to develop from the start. How this may be linked up with the broad concept of air space formation as the normal visceral lung function that begins at birth will be discussed later. At this point it should be noted that there is suggestive evidence that developmental defects imply a disturbance in the autonomic regulation of the visceral lung function.[5] In this sense then, the abnormal air spaces to which they subsequently give rise may be interpreted as manifestations of disturbed visceral lung function restricted to localized areas. Since this function does not begin until birth, obviously abnormal air spaces can be acquired only after that.

Problem of the Primary Factor in Localized Air Space Abnormalities.—The prevailing opinion is that localized abnormal air spaces are produced by an obstructive check valve mechanism and that their clinical behavior bears this out. We believe, however, that these observations merely indicate that check valve obstruction plays an important role in the clinical evolution of localized cystic and bullous changes. Certainly when lung changes show developmental features, obstructive hyperinflation is only a secondary factor accounting for the progressive increase of an already preexisting abnormal air space.

Clinical observations indicate that no distinction is possible between lung changes with or without developmental changes. In abnormal air spaces produced by pathological processes, it is a reasonable assumption that such changes at the site play the primary role. It may also be assumed that in all abnormal air spaces where check valve obstruction hyperinflates, this is preceded by such an abnormality. We believe that check valve obstruction brings about excessive hyperinflation only in the presence of abnormal air spaces at the site affected, and that check valve obstruction is not the only factor in the mechanical overdistention of abnormal air spaces. The operation of still another mechanism, is to be discussed later.

The pathological findings of Medlar not only have confirmed our concept but have also shown that developmental defects are so localized and restricted in extent that they remain clinically latent, invisible, and undemonstrable by clinical examination. When mechanical factors supervene, they cause overdistention, so that the developmental defects become clinically manifest. Localized abnormal air spaces should therefore be looked on as overdistended defects of developmental or pathological origin. The real problem here is the primary factor that makes this lung defect subject to mechanical overdistention. In the interpretation of air space abnormalities, this has been given little consideration.

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[4] Medlar, E.: Personal communication to the authors.

[5] Ayers, W. B.; Stowens, D., and Ochsner, A.: Fibrocystic Disease of Pancreas, J. A. M. A. 142: 7 (Jan. 7) 1950.

Problem of Emphysema as the Key to Abnormal Air Spaces.—Pulmonary emphysema has become the key to the origin and nature of abnormal air spaces. Its prevailing concept is that of mechanical overdistention of air spaces, and since abnormal air spaces are mechanically overdistended, they are considered to be manifestations of emphysema. In localized forms, check valve obstruction of the bronchi is presumed to play the key role. In diffuse forms, generalized bronchoconstriction is considered as the primary factor. Yet it has long been recognized that localized, as well as diffuse, forms of emphysema are often present without bronchial obstruction. Giant bullae in both lungs are often observed in persons showing no signs of bronchial obstruction clinically, and this cannot be demonstrated in all cases in which resection is performed. In so-called senile emphysema there may be extensive emphysematous changes that are in no way different from those of much lesser degree with bronchial obstruction, but there may be no evidence of bronchial obstruction. In all forms of emphysema there are found areas showing only merging of air spaces by traceless disappearance (atrophy) of partitions, and the air spaces so formed are abnormally large but not hyperinflated. In other areas there may be evidence of mechanical hyperinflation with disruption of partitions, compression, and displacement of adjacent lung areas. Here also there is usually evidence of local obstructive factors playing a role in their localization. It is well recognized that extensive emphysematous changes may remain clinically latent without obstructive manifestations, but the advent of obstruction makes much lesser degrees of emphysema clinically conspicuous. There is ample clinical and pathological evidence to show that air entrapment behind check valve obstruction does not satisfactorily account for more than the excessive hyperinflation of abnormal air spaces. Before this mechanical distention occurs, abnormal air spaces form by coalescence of normal air spaces by loss of partitioning, the essence of true emphysema.

In most recent literature indications now appear of beginning awareness of the problems of true emphysema. Churchill,[6] Head,[7] and Lengenhagen[8] have recently made important contributions to this. Describing observations on the physiological function of lung segments, Churchill discusses the nature of abnormal distention of air spaces in segmental lung areas and offers the concept of "space occupying function of air" as an answer to the problem of segmental emphysema. Head recognizes the fact that obstruction does not play the role generally attributed to it in the origin of emphysema itself and offers a new theory of pulmonary mechanics, explaining the development of emphysematous changes (cysts, bullae) by persistent expansion associated with loss of pulmonary elasticity. Lengenhagen contends that, even in presence of bronchial obstruction, the latter is not responsible for the distention of the affected air spaces. He attributes it to a hitherto unrecognized principle of pulmonary dynamics recently demonstrated by him. These concepts point up the complexity of the problem of diffuse emphysema and especially that of the origin of localized abnormal air spaces. In our opinion these concepts fall far short of solution, because they too look on emphysema as mechanical. The concepts advanced up to now are all based on the assumption that the lung structures behave like lifeless rubber.

Problem of the Common Denominator of All Air Space Abnormalities.—From the foregoing observations it is obvious that the ultimate problem is that of the primary factor in all air space abnormalities, including emphysema. The solution to this problem lies in a concept that can include all manifestations and can reduce them to a common denominator. There is need for a concept that will afford an explanation of localized bullous or cystic changes in otherwise normal lungs as well as diffuse pulmonary emphysema involving both lungs. Such a concept should explain on the same principle acute emphysematous changes of developmental or pathological origin as well as chronic diffuse pulmonary emphysema of undetermined origin (essential emphysema). It is our conviction that such a concept should be based on biological and not on mechanical principles of lung function. It is our belief that such a solution is available in our concept that looks on these changes as manifestations of air space disorder. If we accept this as a working theory, we may define air space disorder as a loss of air space partitioning due to lack of alveolar structure in lung defects of developmental or pathological origin. The normal expansion of the chest and lungs exerted upon such defects will result in air space disorder, that is, production of abnormal air spaces. Our concept implies that air space partitioning is part of the visceral function of normal lung structure. Therefore, air space disorder expresses a disturbance of the normal visceral function.

A full discussion of this truly biological concept of lung function is beyond the scope of this presentation. Suffice it to mention here that it was first proposed some years ago by one of us[9] and that a great deal of inferential evidence in physiological studies on lung function has accumulated since then that favors the existence of such a visceral function. A full discussion of the present status of this concept is planned for a forthcoming publication.

PRACTICAL ASPECTS

The practical implications of our concept exist chiefly in affording reasonable explanations for the clinical manifestations and a theoretical basis for new avenues of approach in treatment.

An outstanding clinical feature of air space disorder is its frequent presence without clinical manifestations when the roentgenographic evidence is most marked; contrariwise, it may be clinically most conspicuous when the roentgenographic evidence is discernible only with great difficulty. Localized air space disorder conspicuous by roentgenogram involving a large part of one lung or even both lungs may be present with little disturbance in the visceral function as a whole. In contrast, diffuse air space disorder that is barely demonstrable by roentgenogram may involve both lungs as a whole and lead to severe disturbance of visceral lung function. Localized, as well as diffuse, air space disorders even involving extensive lung areas are for the most part well compensated for by available intact lung parenchyma, affording adequate visceral function. This compensatory function is, however, readily interfered with by bronchial obstruction which leads to mechanical hyperinflation of localized air spaces or by excessive bronchospasm, which depresses the efficiency of ventilation of compensating lung areas. Clinical observations indicate that such compensation eventually becomes associated with increased expansion of the chest and lungs and increased bronchomotor activity. With increasing air space disorder, as pulmonary insufficiency is approaching bronchospastic phenomena often become clinically manifest. Dyspnea supervenes as an expression of pulmonary insufficiency. The clinical picture then assumes asthma-like features, indicated in the term pseudoasthma. The medical treatment of clinically manifest air space disorder consists essentially of combating pulmonary insufficiency and bronchospasm and of keeping the airways open.

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[6] Churchill, E. D.: Architectural Basis of Pulmonary Ventilation, Ann. Surg. **137**: 1 (Jan.) 1953.

[7] Head, J. R.: Observations of Mechanism of Emphysema and Surgical Treatment of Dyspnea, Quart. Bull. Northwestern Univ. M. School **25**: 210, 1951.

[8] Lengenhagen, K.: Genese d. stenotischen Lungenemphysems, Schweiz. med. Wchnschr. **82**: 542 (May 17) 1952.

[9] Miller, J. A., and Rappaport, I.: Relation of Pulmonary Function Fibrosis and Emphysema, Ann. Int. Med. **11**: 1644 (March) 1938.

In the foregoing discussion it was shown that obstructive hyperinflation of lung areas affected by air space disorder is a frequent complication interfering with compensation of adjacent functioning lung areas.

Modern thoracic surgery now allows us to meet this situation by resecting lung segments so affected and making available functioning adjacent lung areas free for compensatory function. The prerequisite for such surgical intervention is, of course, an accurate estimation of the affected areas and the available functioning ones. The assessment of the extent of pulmonary involvement and of available functional reserve before surgery is most difficult and requires all examinations, including planigrams, angiograms, bronchograms, and double bronchospirometry studies. Long clinical experience and close cooperation between medical and surgical consultants is necessary.

SUMMARY

Clinical and pathological observations have shown that air space abnormalities described as cysts, bullae, and pneumatoceles are common and are probably increasing in frequency. They are practically always acquired in origin and are closely related to, or in fact are in the nature of, emphysematous changes in the lung. These observations have pointed up the need of explaining both abnormal air spaces that frequently show morphological features of developmental origin and the variable forms of air space abnormalities on the basis of prevailing concepts of emphysema. Our analysis indicates that current concepts do not afford an adequate explanation of these changes.

A new concept is proposed that looks on all these, including all forms of emphysema, as forms of air space disorder. This is interpreted as a disturbance of the visceral function of the lungs. The practical implications of this concept are briefly related.

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THE ESOPHAGUS IN GENERAL PRACTICE

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No specialist can claim the exclusive right to treat a specific organ or part of the body. The esophagus is no exception to this fact. The general practitioner, who almost always sees the patient first, is particularly aware of the importance of the proper interpretation of signs and symptoms. It is incumbent on every physician to be intimately conversant with the numerous manifestations that may be of esophageal origin. It is indeed embarrassing to misinterpret cardiospasm as coronary disease, to overlook a hiatus hernia as the cause of an "idiopathic" secondary anemia, or to consider the cyanosis of a newborn infant as due to a tetralogy of Fallot rather than a tracheoesophageal fistula. These errors are becoming less frequent as we learn more about the esophagus.

CARDIOSPASM

Cardiospasm is characterized by dilatation, hypertrophy, and tortuosity of the esophagus. Theories as to the cause of cardiospasm are numerous and nebulous and will not be discussed; however, it is sufficient to say that there is no known pathological origin of the condition. It is twice as common in women as in men, and in a large percentage of cases a history of emotional strain or psychic trauma can be elicited. Cardiospasm is the cause of 20% of all cases of dysphagia.

The outstanding symptoms are dysphagia, regurgitation, and retrosternal pain. Complete esophageal obstructions of varying duration, even to a point where the patient cannot swallow his own saliva, have been noted. Difficulty in swallowing is associated first with liquids and then with solids. The retrosternal pain varies from mild to severe, and prolonged use of morphine for relief may result in addiction to the drug.

Kramer and Ingelfinger have described the methacholine (Mecholyl) chloride test as an aid to the diagnosis of cardiospasm. When this parasympathomimetic drug is injected into normal persons there is only a slight increase in tone and magnitude of esophageal contractions. In patients with cardiospasm, however, marked esophageal spasm and contractions follow administration of the drug. Roentgenograms and esophagoscopy confirm the diagnosis. It is well to remember that in cardiospasm the esophagus is markedly dilated; in carcinoma it is moderately dilated; and in strictures it is mildly dilated.

Complications that may be associated with the condition are bronchitis, bronchiectasis, and pulmonary

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abscess, all of which can be caused by aspirated matter regurgitated from the esophagus.

Medical management includes use of psychotherapy, antispasmodics, and dilatation. Many surgical procedures have been advised, including cardioplasty, cardiomyotomy, resection, and anastomosis.

ESOPHAGEAL SPASM AND TENSE ESOPHAGUS

Esophageal spasm and tense esophagus are overlooked or misdiagnosed frequently. The condition is a functional derangement of the esophagus that is a somatic expression of psychic disturbances and is manifested primarily as an increase in muscular tonus in the absence of local organic pathology. It should not be confused with cardiospasm. Tonus is the muscular tension present in the noncontracting state or during diastole. Esophageal muscular tonus produces pressure in the lumen; hence this pressure varies according to the state of relaxation, and esophageal pain may be produced by increase of muscle tonus. Transit times can be temporarily slowed in some persons by emotional tension.

States of diastole involve different levels and have a wide range of severity. The term globus hystericus probably represents a mild increase in tonus in the upper esophagus. Patients with this condition should not be dismissed as neurotic but can be successfully and sympathetically treated. Tension states involving the midesophagus and the lower esophagus are associated with frequent belching, heaviness, and dull pain; these same symptoms are often mistaken as signs of gallbladder disease or gastrointestinal pathology. In the severe forms there is usually excruciating substernal or epigastric pain accompanied by dyspnea, pallor, sweating, and syncope. If these are erroneously associated with coronary disease an unnecessary cardiac cripple may result. It has been proposed that the term tense esophagus refer to increased esophageal diastole and that the term esophageal spasm be reserved for the more acute and severe attacks found in patients with a tense esophagus.

Every case of tense esophagus must be thoroughly investigated before a purely functional etiology is accepted. Overlooked cases of this type impress us with the truism —when the treatment does not work, do not condemn the therapy but suspect the diagnosis. General treatment for tense esophagus is the same as treatment of functional derangements elsewhere in the body. In severe or refractory cases medical therapy and bouginage almost always result in rapid and dramatic relief.

ESOPHAGEAL DIVERTICULA

Diverticula of the esophagus can be classified in two ways; by location and by structure. As to location, there are three locations, namely, upper (pharyngoesophageal), middle, and lower (epiphrenic). With regard to structure, if a section of mucous membrane herniates through the muscle layer it is a pulsion diverticulum, but if all layers of the esophageal wall are pulled to form the pouch it is known as a traction diverticulum. The so-called traction type is usually located in the region of the bifurcation of the trachea where chronically inflamed tracheobronchial lymph nodes are found. These diverticula rarely produce symptoms since they usually have a wide ostium that forms their neck. More important than classification is the pathological physiology, which explains the signs and symptoms. A weakness in the muscular wall is believed to be a prerequisite for a pulsion diverticulum. No symptoms are produced as long as the opening into the diverticulum is large.

As food slowly packs into the pouch it increases in size and drops downward. This process continues until the weighted diverticulum produces pressure on the esophagus, causing obstruction. It should be noted that in such fully developed diverticula food has easier access to the diverticulum than to the esophageal lumen. Dysphagia is the chief symptom and diverticulitis, perforation, and mediastinitis are common complications. Roentgenograms and esophagoscopy confirm the diagnosis.

In this day of chemotherapy, improved surgical technique, modern anesthesia, and proper postoperative care, the one-stage diverticulectomy is preferred to the two-stage operation. Diverticulopexy also has its place. This procedure in which the diverticulum is dissected free and is stitched upward to the surrounding structures is reserved for the poor risk patient who has symptoms. After the operation food does not have access to the hanging diverticulum, and the symptoms are alleviated.

ESOPHAGEAL VARICES (PORTAL HYPERTENSION)

A ruptured esophageal varix results from increased pressure in the portal system (intrahepatic or extrahepatic) and is almost always found at the lower end of the esophagus. The usual cause of intrahepatic block is cirrosis of the liver, and as long as cirrhosis continues to be a common disease esophageal varices will continue to be a threat to life. Extrahepatic block may be caused by phlebitis, thrombosis, fibrous stenosis, or cavernomatous transformation of the portal vein; it may be congenital or acquired. Differential diagnosis of gastroduodenal ulcer and an esophageal varix often challenges the physician's diagnostic ability. The cirrhotic habitus (the man with no hair on his chest) and the presence of gynecomastia and telangiectasia are often signs of liver abnormality. Banti's syndrome is characterized by splenomegaly, anemia, esophageal varices, ascites, and leukopenia. If the block is due to an intrahepatic lesion, results of liver function tests will be abnormal, whereas if the portal block is extrahepatic, results are usually normal. If the disease is in a quiescent stage it might be safe to take an esophagram, which would reveal the pathognomonic "beaded" appearance at the lower end of the esophagus.

Since hemorrhage from a ruptured esophageal varix may be rapidly fatal, definite measures must be taken to prevent a recurrence. Some of the therapeutic procedures advocated are injection of the varix with sclerosing agents, tamponade through the esophagoscope, ligation of the coronary vein, esophagogastric resection to remove the "diseased" area, and the various forms of portacaval shunts. This last procedure has become popular in the past few years, and various types of anastomoses intended to shunt the blood from the portal to the caval system have been attempted. More recently, splenic and hepatic artery ligations have been advocated.

ESOPHAGEAL HIATUS HERNIA

An esophageal hiatus hernia is a type of diaphragmatic hernia in which the upper part of the stomach herniates through the esophageal hiatus. Three types of esophageal hiatal hernias have been described: the paraesophageal type, in which the stomach herniates through the hiatus and lies parallel to an esophagus of normal length; the sliding type, in which the stomach is herniated through the hiatus but has pushed an esophagus of normal length upward, rendering it tortuous; and the hiatal hernia with a congenitally short esophagus, in which the upper part of the stomach is herniated through the hiatus because the esophagus has never attained its normal length. The last type can be diagnosed by the appearance of gastric mucosa at an unusually high level. Hiatal hernias may be a coincidental finding in routine gastrointestinal roentgenograms. Such hernias rarely, if ever, produce any symptoms. Although many advocate no treatment, the danger of strangulation with resulting putrid empyema and rapid death is always present. On the other hand, many patients with hiatal hernias complain of epigastric distress, bloating, belching, anorexia, loss of weight, and retrosternal pain. Such cases have been diagnosed erroneously as gallbladder disease, peptic ulcer, gastritis, or coronary disease. These errors can be avoided if esophageal hiatus hernia is kept in mind, particularly if roentgenograms are taken with the patient in the Trendelenburg position, which would readily demonstrate an otherwise missed herniation.

Left phrenic nerve avulsion should always be considered, since it may relieve pressure and symptoms by relaxing the left side of the diaphragm. Surgical repair of a paraesophageal or a sliding type of hernia is simple, since all that is necessary is a reduction of the herniated stomach and tightening of the esophageal hiatus. Hernia with a congenitally short esophagus is the most difficult to treat successfully.

CONGENITAL DEFECTS

Much has been learned recently about congenital atresias and tracheoesophageal fistulas, so that they now can be properly classified and treated. Various combinations of these anomalies are possible. The most common defect is that in which the proximal end of the esophagus ends as a blind pouch and the distal end joins the trachea to form a tracheoesophageal fistula. Such a defect is suspected if the newborn infant has a symptom complex of coughing, choking, and cyanosis, especially with an abnormal amount of drooling and/or rhinorrhea. These cases should be considered emergencies, as the child may die of aspiration pneumonia. The roentgenologist may determine the type and site of such lesions by merely noting the presence or absence of gas in the stomach and bowel and by injecting a small amount of iodized oil (Lipiodol) through a nasal catheter into the proximal esophagus. Barium injections should never be used. If these few pertinent facts are kept in mind, every "blue baby" will not be considered to have a tetralogy of Fallot, and immediate and proper therapy can be instituted. Treatment of congenital esophageal defects is by surgery, and with modern methods a high percentage of cures can be expected.

CARCINOMA OF THE ESOPHAGUS

A defeatist attitude can no longer be assumed with regard to carcinoma of the esophagus. What was considered a hopeless and inoperable condition only a decade ago is now regarded as worth every effort. An early diagnosis is of paramount importance for increasing the survival rate in esophageal carcinoma. It may be said that any change in the swallowing habit that persists is a symptom of carcinoma of the esophagus until proved otherwise. If this dictum were followed and such symptoms further investigated by means of esophagoscopy and roentgenographic study, many esophageal neoplasms would be found and treated earlier.

Dysphagia is usually the first symptom, and the patient changes his eating habits progressively from steak to hamburger, to soft foods, and finally to liquids. There may be periods during which the patient believes the difficulty has passed. Although a tumor may involve a great portion of the circumference of the esophagus, symptoms may be minimal because of the distensibility of the remaining normal esophageal muscle. Pain and regurgitation are later manifestations. Esophagoscopy with biopsy is the only method by which a positive diagnosis can be made. The preferred treatment is surgical; irradiation therapy is of palliative value.

SUMMARY

The importance of being "esophagus conscious" has been stressed. Some common errors in diagnosis of esophageal conditions are discussed. When therapy fails to relieve a given condition one should doubt the diagnosis rather than condemn the treatment.

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Human Factors in Sanitation Programs in Africa.—In general the primitive African is very close to nature and the realities of life and death. Disease and misfortune are familiar experiences and come unaccountably like bolts from the blue. He feels that whatever stability and strength he has comes from the fact that he is part of a larger organism and that he can only preserve this modicum of power by playing most meticulously his special part in this organism. This attitude governs his whole life and results in extreme conformity to tradition, conservatism in thought and fear of innovation. In the absence of any general conception of the inherent nature of cause and effect, he regards the workings of fate as arbitrary and haphazard and, provided he has obeyed the traditional rules, he rarely blames himself for his failures or misfortunes, but is apt to attribute them to the anger of some external agency and believes himself bewitched. Since his rules of behaviour only apply within his group, and in relation to his clan land, and since he has no abstract codes, he is left without a guiding star when he leaves his tribal sphere. . . . The success of programs of social, health, or other development will depend largely on the degree of understanding with which the basic elements are presented to the African. In no field will this be more important than in that of environmental sanitation which, striking at the very root of his existence, whether in the tribe or in the rural or urban community in which he has made his life, may be most difficult for him to accept. Precipitate action must be avoided at all costs and a step-by-step approach developed. Yet the pressing fact remains that the future development of the continent may well depend to a large extent on the success achieved in raising environmental sanitation standards.—J. W. Wright, Some Human Factors in Sanitation Programs in Africa, *American Journal of Tropical Medicine and Hygiene,* July, 1953.

METABOLISM IN PARAPLEGIA

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and
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The paraplegic patient often has been dismissed as one of the unfortunate by-products of war or accident and thereby often has been the victim of neglect and ignorance. The large number of persons with paraplegia resulting from World War II injuries necessitated establishment of paraplegia centers where patients were rehabilitated as fully as possible. It soon became evident that the primary problems in these long-term patients were directly related to metabolic changes caused by their condition. Many of these changes had been noted in paraplegic patients in civilian life, but the small opportunity for study of large groups of patients often prevented the development of thought and investigation of these problems.

In recent years there has been widespread reemphasis and realization of the importance of metabolism and its changes. It has been found that many of the metabolic changes heretofore apparently limited to the paraplegic person are nonspecific changes that may be produced by any form of trauma. While paraplegia is commonly accepted as being of traumatic origin, functional transection of the spinal cord caused by disease or illness results in a similar pattern of metabolic change.

In this paper metabolic changes in paraplegic patients are examined in the light of recent knowledge, with the hope that better understanding of these changes will lead to more successful management. Occasional reference is made to specific cases, seen in the neurological surgery department of the Cleveland Clinic, to illustrate certain metabolic changes and their consequences.

CLINICAL COURSE OF PARAPLEGIA

The neurological changes occurring in the course of recovery from transection of the spinal cord may have little direct metabolic consequence; however, the resultant neurophysiological changes may have much to do with the alteration or aggravation of the metabolic changes. Riddoch,[1] in his classic description of the reflex activity of the paraplegic patients in World War I, included as the last stage in the clinical course the stage of gradual failure of reflex activity brought about by toxic febrile complications. Kuhn,[2] discussing patients of World War II, does not acknowledge the existence of such a stage. Such have been the advances in the knowledge of the paraplegic person and his metabolism. The present concept of the clinical course of paraplegia includes the following stages.

Stage of Flaccidity.—This stage is characterized by complete suppression of reflex activity below the level of spinal cord injury by "spinal shock," decreased myotatic irritability, dry skin easily made erythematous by pressure or scratching, distention of the bowel and retention of urine, and rapid heat loss from the denervated area. "Spinal shock" is the period of reflex suppression, which may vary considerably, from the condition of acute traumatic shock to the more subacute and even chronic periods of metabolic change. This period averages six weeks after the initial transection of the spinal cord, until there is evidence of returning reflex activity. A few cases of a much more prolonged period of "spinal shock" have been recorded,[2] and in several of the cases seen at the Cleveland Clinic the "spinal shock" period was from six to eight months long. During this period certain metabolic changes may be profoundly altered or may fail to reverse to normal as long as "spinal shock" continues.

The period of metabolic shock that follows acute transection of the spinal cord is a definite period during which profound body changes may occur. The term "shock," however, is rather general and may mean either traumatic or surgical shock, "spinal shock," or the acute shock phase of the alarm reaction of Selye.[3] The first stage of his general adaptation syndrome is the alarm reaction, which in turn is characterized by the shock phase and the subsequent countershock phase. The shock period discussed here, varying from a few minutes to 24 hours, in general corresponds to Selye's shock phase. Transection of the spinal cord in experimental animals has been shown to produce a typical alarm reaction, although the environmental temperature may mitigate the response.[4] Complete absence of symptoms of the alarm reaction may be possible if the body temperature is maintained by artificial means. When it is not, there is a characteristic drop in the body temperature.[5]

In the shock phase there is an acute vasodepression period, which may never advance to the surgical shock level if good nursing care is maintained. There is evidence of impaired circulation resulting from marked reduction in the total number of red blood cells, the hemoglobin, and the red cell volume, and a slight reduction in the total blood volume.[6] Varying degrees of hemoconcentration may make these changes less evident.[3] The causes of these changes include trapping of the red cells in the capillaries, an increase in the plasma volume, an increased red cell destruction of indefinite etiology, and retardation of hemopoiesis due to the fall in blood pressure and in spite of the stimulus of decreased oxygen tension. The blood clotting time shows a definite decrease, with an equal acceleration of fibrin formation. The platelet count rises, as does the globulin content of the plasma, at the expense of the albumin content.[7] These circulatory dynamic changes are not as profound as those seen in other types of trauma because of the lack of certain nervous factors furnished by the intact spinal cord.[8] The latter are not deleterious nervous impulses but are normal functions of the nervous system in response to an alarm stimulus.[9]

There is a general depression of cellular metabolism with a fall in the basal metabolic rate roughly propor-

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Because of lack of space, the bibliographic references have been omitted from THE JOURNAL and will appear in the authors' reprints.

tional to the degree of the shock, although the respiratory quotient rises.[10] Some of the factors responsible are anemia, hypoxia, pain, and the loss of body heat. Nitrogen metabolism shows an early retention, but the nitrogen balance soon becomes definitely negative due to the catabolic effect of the shock phase. The blood urea, amino acids, and polypeptides likewise show early retention. Urinary excretion of creatine is augmented, although the blood creatine rises.[11]

There are similar changes in electrolyte metabolism. The potassium content rises in the blood and tissue fluid because of cell destruction and shows a similar increase in the urine. There is a pronounced decrease in the blood chlorides and in the chloride content of the tissues in general, although the chloride content of the brain and the muscles usually increases considerably above the normal level. Blood sodium decreases according to the chloride fall, as does the urinary excretion of chlorides. Blood phosphate level is elevated during the shock phase.[12] The change in carbohydrate metabolism is reflected by elevation in the blood sugar. Ketone bodies in the blood also increase. There is decreased sensitivity to the effects of insulin.[13] Fat metabolism shows little change except the frequent appearance of lipid deposits in the liver from immobilization of portions of the peripheral deposits.[14]

The mechanisms underlying these rapid changes in metabolism are incompletely understood at present. It is believed, however, that the alarm stimulus or damaging agent (perhaps through a hypothetical toxic metabolite produced under its influence) acts on the anterior lobe of the pituitary and stimulates it to discharge adrenotropic hormone. This in turn stimulates the adrenal cortex to produce an excess of corticoid hormones, which helps raise the resistance of the body and elicits the characteristic phenomena of the alarm reaction. These changes bear a striking similarity to those elicited by an overdose of adrenocorticotropic hormone.[14]

Return of Reflex Activity.—These stages in the clinical course of paraplegia advance from the return of minimal activity of the superficial genital reflexes, through varying degrees of flexor activity, to a pronounced degree of extensor activity. After the immediate responses of the body metabolism to the trauma of spinal cord transection, as characterized by the shock phase, there is a reversal of many of these responses. Selye[3] terms this the countershock phase. As the body tends to counteract the trauma and build up resistance, the countershock phase gradually merges into the stage of resistance, the second stage of Selye's general adaptation syndrome, and specific resistance reaches its peak. This period of the building of resistance will be discussed in considering the postshock period.

During this period the body temperature rises 2 to 3 degrees F, paralleling the increase of nitrogen in the urine. There is blood dilution with an increase in the total blood volume, often to a level above normal. Diuresis may occur.[3] The most profound change is an abnormal loss of nitrogen. The peak loss occurs in from four to eight days.[11] Electrolyte changes occur with an early hyperchloremia in the countershock phase. Potassium is retained to some degree, although the blood level and urinary excretion are high. The peak excretion occurs in from three to four days. The blood sugar, which may have fallen if the shock phase was prolonged, rises during the countershock phase and may reach hyperglycemic levels even if there has been no food intake. These levels may exceed the renal threshold and glycosuria will occur.[8]

EFFECTS OF IMMOBILIZATION AND BED REST

One of the best treatments for an ill patient is bed rest, but in many cases it eventually may do more harm than good. The paraplegic patient is as likely a candidate for prolonged bed rest as any; however, he derives great benefit from early ambulation.

In a study of normal, healthy young men immobilized in plaster casts from the waist down, Deitrick, Whedon, and Shorr[15] found definite changes in the body metabolism. There was a progressive nitrogen loss, starting on the fifth to sixth day after immobilization and reaching its peak in from 10 to 12 days. The urinary excretion of potassium, phosphate, sulfur, and sodium increased in a proportion correlated to the amount present in muscle and correlated to the amount of urinary calcium excreted. Calcium content in the urine was doubled, and calcium in the feces was variably increased. Creatine tolerance decreased with a corresponding decrease in the mass and the strength of the immobilized muscles. The basal metabolic rates fell an average of 6.9%. Exercise tolerance was decreased, and there was a consistent elevation of the pulse rate.

The chief cardiovascular deficits that appear on immobilization are reduction in the total blood volume and a lower peripheral venous pressure with postural hypotension. The average loss in blood volume varies from 5.4 to 9.3% in several studies, or about 500 cc. for the average person.[16] Some of this volume decrease is explained by a contraction of the plasma volume, which averages 15.5%.[17] The lower venous pressure is probably attributable to a reduction in the venous return and cardiac output that cannot be overcome by function of the natural moderator reflexes. Exactly which of the several vasopressor mechanisms is at fault is uncertain.[16b]

In the normal breakdown and repair of the body tissue, there is a continual removal and replacement of collagenous fibers. In the subcutaneous tissue, around joint capsules, in muscle planes, and in other similar locations, collagen is laid down as a loose, areolar, connective tissue that allows considerable range of motion among the moving parts. During immobilization and bed rest, however, there is shortening and tightening of the connective tissue as it is laid down. The collagenous fibers form a dense, hard scar or contracture, and this fibrosis causes loss of joint mobility. The rate of replacement is not known, but there is evidence that gross changes in deposition occur in from four to five days. By the end of three weeks the collagen scar may be extremely strong, and resumption of joint mobility may be exceedingly difficult. Thus, a cycle of immobilization may be the end-result.[18]

PROTEIN METABOLISM

The importance of protein metabolism is almost self-evident, because protein is one of the most important materials of the cellular protoplasm and next to water is the most abundant body constituent. Since the primary end-products of protein metabolism in the human body are the nitrogenous waste products composed chiefly of urea, the so-called nitrogen balances are used as indices of protein metabolism. The difference between the nitrogen taken in the food and that excreted in the feces and the urine is spoken of as the nitrogen balance. When the intake and the output are equal the body is said to be in nitrogen equilibrium. When the intake exceeds the output the body is in positive nitrogen balance; when the output exceeds the intake the body is in negative nitrogen balance.

The healthy adult requires protein to replace the inevitable loss of tissue protein. If the diet contains protein in excess of the amount needed to repair "wear and tear," the nitrogen not employed for repair is excreted, and nitrogen equilibrium is maintained. In starvation, on a low protein diet, and with trauma in general, a person continues to excrete nitrogen derived from the dissolution of his own protoplasm and so goes into negative balance.[19] The significance of the nitrogen equilibrium may be misinterpreted, however, when applied to the ill, if it is used as an absolute scale of a normal protein status. As the body is deprived of adequate protein intake, its protein and caloric needs are correspondingly reduced. With each daily loss of protein and further reduction of tissue mass, an increasingly lower protein and caloric intake is required to attain equilibrium. The equilibrium reached at such a low level of intake is more indicative of hypoproteinia than of normoproteinia, and ease of attaining equilibrium may be used as a means of detecting hypoproteinia.[20] Daily nitrogen excretion of a man of average weight on a nitrogen-free diet is about 3 gm. It might be thought that nitrogen equilibrium can be reestablished by simply feeding the patient this quantity of protein nitrogen. A considerably larger quantity must be fed, however, because the amino acids required by the body are usually in different proportions than those found in the food protein. Certain electrolytes are necessary, also in proportions. Thus a relatively large food assortment must be available and must also contain the other two food principles, fats and carbohydrates, since with an exclusively protein diet it is impossible to achieve nitrogen equilibrium because of the body's energy requirements.[19]

The postshock period of protein metabolism is characterized by the loss of nitrogen. In the first two weeks after spinal cord transection the greatest nitrogen loss occurs, directly in proportion to the severity of the injury to the spinal cord. The peak loss takes place in from three to six days and may reach a maximum of from 22 to 29 gm. of nitrogen per day. From two weeks after transection until about six months later, the degree of nitrogen wastage and its duration depend upon the severity of the initial catabolic response and the patient's ability to recover. If positive nitrogen balance has not been achieved after the six month period, the patient will be chronically debilitated, with little chance for survival.[10] The average period of nitrogen loss, as evidenced by the elevated urinary nonprotein nitrogen, is from 30 to 45 days if there has been some return of the reflex activity within this period. Most of the increased urinary nonprotein nitrogen is in urea and ammonia, with a slight increase in creatine.[21]

In poliomyelitis patients with bulbar-spinal or spinal involvement and extensive paralysis, the 24 hour urinary nitrogen excretion has been found to be the single most reliable index of the catabolic process and of the transition to other phases. Patients in hypotensive shock with decreased renal output are the exception to this generalization.[22] During the catabolic period there is a fall in the serum albumin and a rise in the serum globulin. In poliomyelitis patients this reversal of the serum proteins appears to have a direct relationship to the duration and magnitude of excessive protein destruction and the severity of the disease.[23]

The catabolic process apparently is involved in the transport of protein and minerals from the body stores to the wound site, but this is hardly true in the case of immobilized normal persons, who show the same catabolism. Debilitated patients also fail to show an increase in urinary nitrogen excretion. This failure to show a catabolic reaction might be explained on the basis of acquired resistance to nonspecific trauma of long duration. It may also be explained on the basis that debilitated persons have little storage protein. Evidence indicates that some part of the cellular protoplasm is storage protein that the cells can yield without effect on their viability and that the excessive nitrogen output may arise from this storage protein rather than from essential tissue substances.[24]

Many investigators have thought the period of negative nitrogen balance is an irreversible stage, because studies have shown that with an oral intake of protein up to 100 gm. per day practically the entire nitrogen content of the protein is excreted as urea within 24 hours. Nitrogen of intravenous protein hydrolysate is utilized in much the same manner as food nitrogen, but the nitrogen of intravenous plasma does not appear in the urine. Presumably all of this protein intake is used for energy purposes and not anabolism.[25] Recent investigation, however, has refuted this concept of irreversible catabolism. If an adequate caloric intake of about 50 calories per kilogram of body weight and high protein feeding, about 500 gm. per day, are used, positive nitrogen balance can be achieved and maintained throughout the entire postshock period. Certain special methods of nutrition are often necessary to achieve this high level of feeding.[20]

During the period of catabolism, fever plays only a small role in the nitrogen loss, but infection may play a large role. The problem of infection is of particular importance in the paraplegic patient, because he is susceptible to sepsis in the genitourinary tract. Atrophy of the paralyzed extremities from disuse contributes only a small part to the nitrogen loss. In the early stage of convalescence the positive nitrogen balance may be temporarily returned to a mildly negative balance by light exercise or by fatigue.[26]

ELECTROLYTE METABOLISM

Potassium, the chief basic ion of the body cells, is the most important inorganic substance in the group of electrolytes. The body of the average adult contains about 175 gm. of potassium, all of which is in the cells except for about 11 gm. divided among the extracellular spaces, blood cells, and the blood plasma. Trauma results in cellular breakdown, as shown by the development of negative nitrogen balance. For every gram of nitrogen broken down, about 2.7 mEq. of potassium is released. This released potassium is added to the urinary excretion of the cation. The ratio of urinary excretion of potassium to that of nitrogen is about 1 to 10. The peak loss of potassium will usually occur in from three to four days after trauma.[2]

For the fabrication of protein it is necessary to have all of the essential components of the particular tissue, which means that, in addition to the required amino acids, the necessary inorganic salts, particularly potassium, must be available. Experiments in animal feeding have shown that amino acid preparations that were nutritionally adequate in the amount and the distribution of usable nitrogen produced poor growth when diets deficient in potassium were used. This seems to indicate that a minimal daily intake of potassium is necessary in the process of protein repletion.[27]

After the immediate postshock period little change takes place in the sodium and chloride metabolism, unless there is some complicating factor that produces electrolyte loss, i. e., vomiting or diarrhea. The pathological effects of potassium deficiency may be materially modified by restriction of the sodium chloride intake, for as the sodium chloride intake rises the effects of potassium deficiency increase. Alterations in sulfur metabolism parallel those of protein metabolism. Sulfur is present in the body largely as a constituent of two amino acids, since the body does not utilize inorganic sulfur in manufacture of body protein. The ratio of sulfur excretion to nitrogen excretion is about 1 to 14 gm. Thus, during the period of negative nitrogen balance, the urinary excretion of sulfur is high. During protein anabolism a minimal daily intake of sulfur is necessary for protein production. This is furnished if the diet contains the necessary amino acids.[28]

CALCIUM AND PHOSPHORUS METABOLISM

Alterations in calcium and phosphorus metabolism are largely caused by the bone changes that occur as a result of the immobilization and bed rest. Although bone is rigid and seemingly permanent, it is really a dynamic tissue that is broken down and rebuilt continuously. Local stress and strain dictate the areas where new bone must be built. In the absence of stress and strain there is a decrease in the activity of the osteoblastic cells. The decreased formation of the organic matrix, but with a continuation of the normal osteoclastic activity of bone resorption, leads to demineralization and osteoporosis. The mechanisms for the homeostasis of calcium and phosphorus in the blood remain the same; hence they are present in normal amounts in the serum but are definitely increased in the urine. The amount of ionized calcium usually increases with recumbency.[29] The hypercalcinuria and hyperphosphaturia exist for at least the first 60 days after immobilization. The excretion level stabilizes after about 30 days and may remain so until mobilization occurs.[30]

HORMONE METABOLISM

The characteristic pattern of metabolic response to trauma is largely set by hormonal action. As mentioned before, the theoretical chain of events is from pituitary stimulation to adrenal cortical outflow, since many of the changes bear a striking similarity to those elicited by an overdose of adrenocortical hormone.[13a] Exposure to stress increases the tissue utilization of adrenocortical hormone, thereby decreasing the effective blood level that activates the anterior lobe of the pituitary to elaborate the adrenocorticotropic principle. The adrenal cortex and its secretions are particularly responsible for the control of protein metabolism and the excretion level of the urinary nonprotein nitrogen. Administration of these hormones in excessive amounts can cause an increase in the urinary nitrogen excretion; however, in animals in which the adrenals are replaced by a constant dose of cortical extract, trauma is attended by the same nitrogen excretion. Thus no increased adrenal secretion is necessary. For 24 to 48 hours after trauma, the urinary output of 17-ketosteroids is increased; then it falls below normal levels for a period approximating that of the catabolic reaction. Secretion of urinary cortin-like substances is increased for the same length of time. Perhaps the necessity of the presence of adrenocortical hormones for the protein metabolic response is based upon the potentiation of the thyroid gland in its control of nitrogen, since an increase in urinary nitrogen excretion results from the administration of thyroxin, an amino acid of the thyroid. A hormonal cause for the failure of debilitated patients to show a catabolic reaction is suggested by the fact that chronic underfeeding in rats produces a pseudohypophysectomy.[21]

COMPLICATIONS AND THEIR METABOLIC RELATIONSHIP

Decubitus Ulcer.—The decubitus ulcer is a common complication of paraplegia and can be one of the most distressing problems in the patient care. The incidence of ulcers in paraplegic patients varies from 95% in war cases to 28% in civilian cases.[31] Poer [32] found that 57% of war injury paraplegic patients at general hospitals in the U. S. had decubitus ulcers. The incidence of ulcers in paraplegic patients at the Cleveland Clinic during the past six years was about 46%.

Munro's theory[33] on the etiology of the decubitus ulcer is that the prolonged pressure on a single point leads to local tissue anemia. The normal skin maintains the vascular reflex, bringing more blood to the periphery of the pressure point. There is an absence of autonomic reflex function as well as somatic reflex function in the stage of "spinal shock," and after recovery of reflex function there is always some impairment in the functional efficiency of the autonomic responses, particularly those of piloerection, sweating, and vasomotor tone.[34] This autonomic impairment is further evidenced by the fact that in about 54% of the paraplegic patients with decubitus ulcers the spinal cord lesion is in the thoracolumbar area where the autonomic centers and outflow are concentrated. The ulcers are found in 20% of patients with lesions of the cervical cord and in 18% with lesions in the cauda equina.[31b] Since there is no increase in oxygen-bearing blood to the pressure point, local anoxia soon results, leading to local tissue necrosis.[33]

In addition to the local tissue changes, the factors of protein depletion and anemia are paramount in development of the decubitus ulcer. In Poer's series of paraplegic persons with ulcers, the majority had a negative nitrogen balance, and at least 74% had moderate to severe anemia.[32] Mulholland [35] reports that in a series of unparalyzed patients with negative nitrogen balance all decubitus ulcers healed when the catabolic state was reversed. Once a decubitus ulcer has developed, it will further aggravate and perpetuate the catabolic state by causing the loss of as much as 50 gm. of protein per day. Thus it is evident that protein anabolism must be achieved for satisfactory healing of the decubitus ulcer.

Anemia and Hypoproteinemia.—Anemia and hypoproteinemia often are the two most evident clinical manifestations of serious metabolic alterations in the paraplegic patient. Although there is considerable interrelationship in their metabolism, each disorder may exist totally independent of the other. The nutritional status of the paraplegic patient may have as much to do with the metabolic disorders as does the trauma itself. In Poer's survey, 74% of patients showed a serious loss of body weight averaging 42.5 lb. (21.25 kg.) per patient. The severe mental depression that many of these patients exhibited, with its resultant anorexia, was added to the inevitable changes in the protein metabolism. A moderate to severe secondary anemia was present in 74% of the same group of patients. In the absence of a significant degree of blood loss these severe anemias may be difficult to explain completely.[32]

In addition to the nutritional status and the protein catabolism, defects in iron metabolism may be brought about by impaired liver function in the acute shock and early postshock periods. The rate of blood regeneration following blood loss has been shown to depend chiefly upon the available body stores of iron, which, when depleted, are replaced slowly. Although iron is stored in many tissues, including the spleen, bone marrow, and the kidneys, the main storage depot is the liver. The mechanisms of iron metabolism in the presence of impaired liver function have been incompletely studied, but it is accepted that aplastic anemia may occur with liver disease.[36]

Hypoproteinemia is not necessarily present when the body has a protein deficiency. It has been shown that plasma proteins remained within the normal range even when there was a 25% loss of the body weight after a prolonged period of semistarvation and in the presence of symptoms of hypoproteinia such as reduced organ size, alterations in the fluid compartments and in tissue permeability, and mental changes.[20] In hypoproteinemia, for each gram of plasma protein that is lost there is an accompanying loss of 30 gm. of tissue protein. Thus, in an average size man weighing 140 lb. (70 kg.), with the loss of 1 gm. per hundred cubic centimeters in the plasma proteins, about 1,030 gm. of tissue protein are lost. These same relationships apply to the regeneration of protein during anabolism. Approximately 3.5% of the available nitrogen goes into the serum albumin and the remainder to the tissue proteins. There is relatively little change in the plasma albumin level after large doses of protein, a fact that has been too frequently forgotten in the clinical treatment of protein deficiency. In the presence of anemia the available nitrogen will first be diverted to the synthesis of hemoglobin, at the expense of tissue protein regeneration. It is extremely important to correct the anemia first by the use of whole blood.[37]

Liver Function.—Some degree of liver function impairment is a consequence of trauma, such as war wounds and surgical operations, and is particularly noted after spinal cord transection.[38]

In tests for liver function there is a definite retention of sulfobromophthalein (Bromsulphalein) sodium that may amount to as much as 18 to 40% during the first two weeks after spinal cord injury.[10] The abnormal results do not appear to be related to elevation of body temperature, loss of blood, severity of the post-traumatic catabolic reaction, or to the level of the lesion in the spinal cord. There does appear to be some relationship between the degree of retention and the severity of the injury to the spinal cord.[39] Normal function usually returns within three to six weeks if the patient is going to recover. Early ambulation has no influence on the return of normal liver function.[40] The urinary excretion of urobilinogen increases abnormally during the same period in which sulfobromophthalein retention occurs. Return of the urobilinogen level to normal parallels the sulfobromophthalein changes and is unaffected by ambulation.[38b]

The mechanism of impairment of liver function is indefinite, but it appears to be one of the many organ changes of the post-traumatic catabolism. Selye [3] describes some cloudy swelling of the liver cells and a decrease in the blood volume of the liver during the alarm reaction. Impairment of liver function has not been completely investigated, but it may be an important factor in metabolic changes such as protein catabolism and iron metabolism. It may also contribute to permanent liver changes, such as hepatomegaly and amyloidosis,[45] occasionally noted in paraplegic patients.

Bone Changes.—The paraplegic patient frequently has abnormal changes in the bones or the adjacent soft tissues in the paralyzed portion of the body. These changes are caused partly by abnormal local stimuli or the lack of stimulation and partly by the body's response to abnormal metabolic changes.

One important bone change is erosion, which is evident in 45% of paraplegic patients. Eighty-five per cent of the patients showing these bone changes also have decubitus ulcers, because there is a direct relationship between the bone and skin lesions. Bone lesions tend to develop wherever the soft tissue over a bony prominence becomes devitalized. Biopsies show subacute and chronic infection of the tissue overlying the bone with extension of the infection into the superficial layers of bone. This leads to resorption of the cortex and the underlying trabeculae, and the marrow is replaced by fibrovascular tissue. These changes are evident roentgenographically first as loss of the cortex and later as a rough, shaggy appearance of the bone surface. There is erosion and flattening of the prominences. With early repair, reshaping or molding of the prominences occurs, and, with later repair, proliferation leading to abnormal contours occurs. Joint surfaces are not involved.[42] The other important bone change is generalized osteoporosis in the paralyzed portions of the body. This is a disuse phenomenon caused by immobilization and is present in varying degrees in every paraplegic patient.

The soft tissue change of abnormal ossification occurs in about 43% of paraplegic patients and may occur rarely in a patient with a traumatic cord lesion in which function will return. All patients showing ossifications have or have had decubitus ulcers, but there is no correlation of areas that are involved by the two types of lesions. Ossifications are most frequently found near one of the larger joints, such as the hip or knee joint. Ossifications may occur in the muscles, tendons, tendon sheaths, ligaments, and joint capsules, or may be attached to the periosteum. The periosteum adjacent to ossifications shows no changes, as ossifications do not affect or arise from the periosteum. They usually form in a few weeks to several months after the injury and assume a mature trabecular pattern that tends to remain constant in roentgenographic appearance.[43] The cause of these abnormal ossifications is indefinite. Local injury with hematoma formation may explain part of the change. A neurogenic factor is involved, because these lesions are never seen above the level of the spinal cord lesion and are rarely seen in patients showing functional return of spinal cord activity. There is probably some abnormal tissue response to the altered calcium and phosphorus metabolism. Although blood calcium and plasma protein contents are the same in patients with and without the ossifications, blood phosphorus and phosphates are significantly elevated in patients with ossifications.[43a]

The effect of ambulation on these abnormal bone and soft tissue changes is profound. In a series of paraplegic patients, 12% of ambulant patients showed a mild osteoporosis, while 83% of nonambulant patients had a more severe osteoporosis. There was a 12% incidence of soft tissue ossifications of a minimal degree in ambulant patients compared to an incidence of 47% of ossifications to all degrees in nonambulant patients.[44]

Renal Changes.—The genitourinary tract is particularly susceptible to pathological alterations as a result of some of the metabolic changes and changes in the neurophysiology of the bladder due to the spinal cord lesion. Riddoch's third stage in the clinical course of paraplegia, that of decreasing reflex activity due to toxic febrile complications, was primarily based upon genitourinary sepsis.[1] Better understanding of the pathophysiology of the neurogenic bladder and use of chemotherapeutic and antibiotic agents have eliminated Riddoch's third stage from the modern concept of the clinical course of paraplegia. In World War I there was an overseas mortality of about 80% in the spinal cord injury cases, and, of these, 47% were due to genitourinary complications. In World War II there was an overseas mortality of 12%, and, of these, 1.5% were due to genitourinary complications.[45]

The most important metabolic changes that affect the genitourinary tract are those of calcium and phosphorus content. The hypercalcinuria present in all nonambulant paraplegic patients remains throughout the period of immobilization. In the immobilized patient there is usually an increase in the ionized calicum. Lowered plasma protein with normal blood calcium level causes an increase in the proportion of ionized calcium to protein-bound calcium. This increases the amount of ionized calcium available for stone formation. The recumbent position of the patient causes accumulation of sediment in the renal calices, furthering the tendency toward stone formation.[29] Renal calculi in spinal cord injuries of all types vary in incidence from 10 to 20% in different series of cases. Bladder calculi in the same series of cases vary in incidence from 20 to 70%.[45]

Various methods of diminishing the concentration of calcium in the urine, such as forcing fluids, acid ash diets, elimination of milk and fruit juices in the diet, and elevation of the head of the bed, have been advocated. The best prophylaxis is ambulation, which decreases hypercalcinuria almost immediately.[46]

Endocrine Changes.—Hormonal changes, which are an integral part of the body's response to the trauma of spinal cord transection, may have some profound effects upon the various endocrine systems and sexual functions of the body. The roles of hormonal change and of neurogenic factors after the spinal cord section have not been adequately defined. Selye [3] postulates that atrophy of the gonads of both sexes is caused by a shift in the hormone production of the pituitary, increasing the output of the adrenotropic hormones at the expense of the gonadotropic hormones.

Cooper, studying a series of paraplegic men, found that testicular atrophy occurred in over 50%.[47] Testicular biopsy studies have shown that there is arrested maturation of the germinal epithelium in at least 62% of the cases. The testicular changes had no relationship to local infections (epididymitis), duration of the spinal cord lesion, general systemic factors, degree of sexual potency, or the level of the cord lesion between C_6 and L_5. The factors of denervation of the epithelium and tropic changes secondary to the vasoparalysis of the spermatic cord and testicular vessels are possible explanations.[48]

Little study has been made of endocrine changes in paraplegic women because of the rarity of such patients. Young adult women with post-traumatic paraplegia usually cease menstruating for three to six months after injury, and subsequent flow is scanty and irregular.[39] Similar changes have been observed in patients seen at the Cleveland Clinic. In a young adult woman with paraplegia resulting from a degenerative spinal cord disease (neuromyelitis optica), menstruation did not resume until 18 months after the onset of paraplegia.

Gynecomastia has been observed in 22 to 25% of paraplegic men. No consistent endocrine abnormality has been demonstrated as the cause.[49]

SUMMARY

The present knowledge of metabolic changes in paraplegia is presented. Many of these changes are not limited to the paraplegic patient but occur as definite and consistent reactions to trauma of any form. Some specific complications of paraplegia are discussed, with emphasis on the metabolic abnormalities that underlie them. No attempt is made to discuss treatment of metabolic alterations, but the basic facts on which effective treatment depends are presented.

INCIDENCE AND CLINICAL MANIFESTATIONS OF CARDIAC METASTASES

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The incidence found at autopsy of cardiac metastases in patients who died of cancer is reported in the literature to be less than 4%.[1] Pollia and Gogol[2] found involvement of the heart by metastatic disease in 29 cases among 1,450 autopsies of patients dying of cancer; Scott and Garvin,[3] 101 among 1,085; Ritchie,[4] 16 in 857; and Prichard,[5] 146 of 4,375 cancer autopsies. The disproportionate frequency of serial changes in the electrocardiograms of patients dying of cancer at Memorial Center led us to review the clinical and postmortem data of 500 consecutive cancer deaths observed between 1948 and 1950.

METHOD AND MATERIAL

The incidence of cardiac metastases in the various neoplastic diseases encountered was tabulated, and the exact site of the metastases, as well as the degree of cardiac involvement, was noted. The clinical, electrocardiographic, and roentgenographic findings were correlated, insofar as possible, with the pathological changes described at autopsy. No primary heart tumors were encountered in this series, and therefore discussion of these rare tumors will not be included. Data are based on 124 patients dying of leukemia, 69 of lymphoma, and 307 of other tumors. For the purposes of this study we include under the heading of lymphoma the following conditions: Hodgkin's disease, Hodgkin's sarcoma, Hodgkin's granuloma, lymphosarcoma (all types), and reticulum cell sarcoma. The leukemias were represented by acute and chronic lymphatic, acute and chronic myelogenous, acute monocytic, acute micromyeloblastic, and stem cell leukemia.

RESULTS

The over-all incidence of cardiac infiltration in 119 patients with leukemia of various types was 44% (52 patients). A slightly greater frequency of myocardial infiltration was noted in lymphatic leukemia (58%) than in myelogenous (40%). In acute myelogenous leukemia, occurring in 53 persons, the incidence was 42% (22 patients with cardiac involvement) as opposed to 35% (7 of 20 persons) in the chronic form, and the incidence was 59% (10 of 17) and 57% (8 of 14), respectively, for chronic and acute lymphocytic leukemia. Cardiac infiltration was found in 23% (3 of 13) of patients with stem cell leukemia and in the one patient each with acute monocytic and acute micromyeloblastic leukemia. No postmortem evidence of cardiac involvement was found in five patients with multiple myeloma. The cardiac involvement in all instances was characterized by interstitial and perivascular infiltration of the heart with leukemia cells. Occasional microscopic areas of fibrosis and myocardial necrosis were encountered.

The frequency of cardiac infiltration in 69 patients who died from lymphomas of various types was established, with an over-all incidence of 24% (17 patients). No significant differences were found among Hodgkin's disease (29%, or 4 of 14), Hodgkin's sarcoma (31%, or 4 of 13), and reticulum cell sarcoma (30%, or 7 of 23). Cardiac infiltration was found in only 13% (2 of 15) of the patients with lymphosarcoma and in none of the four cases of Hodgkin's granuloma. The type of involvement was variable in extent. Tumor cells were seen in epicardial fat, often extending into and between underlying muscle fibers. At times, massive replacement and destruction of muscle were noted.

In table 1 the incidence of cardiac metastases from visceral and cutaneous tumors is presented, with an over-all metastatic rate of 12%. These 304 patients had 62 types of malignant tumors. Cardiac metastases were found in 37 instances in 152 autopsies, representing 15 different types of neoplastic disease. In the remaining 155 patients (47 tumor types) the heart was not involved. The three commonest tumors producing cardiac metastases were carcinoma of the lung, carcinoma of the breast, and malignant melanoma. The incidence of cardiac involvement in the 12 other types of tumors varied widely and is also listed in table 1.

Three of the five patients with malignant melanoma had cardiac metastases. Scott and Garvin[3] reported cardiac involvement in 5 of 10 such patients (50%), and Moragues[6] in 4 out of 7 (57%). This high incidence, together with other reports, prompted us to augment the series by studying additional autopsies of patients who died with malignant melanoma at Memorial Center and a series of private patients collected by Dr. George T. Pack, totaling 34 in all. The distribution of metastases in these 34 patients is presented in table 2, with 15, or 44%, showing cardiac involvement. In no instance was the heart the sole site of metastases, and in almost every instance when the heart was involved widespread metastases were present elsewhere as well.

Similar data are listed in table 3 for 106 patients with cardiac metastases resulting from tumors other than melanoma. The distribution of the noncardiac metastases is essentially similar, except for the greater incidence of skin involvement in the patients with malignant melanoma. Fifty-five (89%) of the 62 patients with splenic metastases had either leukemia or lymphoma; in 11% splenic metastases were due to other tumors.

From the Memorial Center for Cancer and Allied Diseases.

[1] (*a*) Herbut, P. A., and Maisel, A. L.: Secondary Tumors of the Heart, Arch. Path. **34**: 358 (Aug.) 1942. (*b*) Yater, W. M.: Tumors of the Heart and Pericardium: Pathology, Symptomatology and Report of 9 Cases, Arch. Int. Med. **48**: 627 (Oct.) 1931.

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[4] Ritchie, G.: Metastatic Tumors of the Myocardium: A Review of 16 Cases, Am. J. Path. **17**: 483, 1941.

[5] Prichard, R. W.: Tumors of the Heart: Review of the Subject and Report of 150 Cases, A. M. A. Arch. Path. **51**: 98 (Jan.) 1951.

[6] Moragues, V.: Cardiac Metastasis from Malignant Melanoma: Report of 4 Cases, Am. Heart J. **18**: 579, 1939.

The sites of cardiac metastases in the 106 cases of leukemia, lymphoma, and visceral and cutaneous tumors were as follows: Pericardial involvement occurred in 27% (29) of the patients, 5.7% (3) of the 52 leukemia patients, 52.9% (9) of the 17 lymphoma cases, and 45.9% (17) of the 37 cases of other tumors. No significant differences were noted in epicardial, myocardial, or endocardial metastases in the three groups, the incidence ranging from 43 to 53%, from 30 to 46%, and from 20 to 27%, respectively. Bloody pericardial fluid was found in 3.8% (2) of the leukemia patients and in 11.7 (2) and 10.8% (4) of the lymphoma and other tumor groups. Gross evidence of tumor invasion of the heart was present in only 9.5% (4) of the leukemia group but was seen in 64.6% (11) of the lymphoma patients and in 72.9% (27) of the other tumor group. Predominant involvement of one chamber of the heart was uncommon in leukemia, with 3.8% (2) encountered in the right atrium, none in the left atrium, 9.5% (5) in the right ventricle, and 7.6% (4) in the left ventricle. In the lymphoma patients the incidence was 17.7% (3), 11.7% (2), 29.5% (5), and 5.9% (1), respectively. In the group of other tumors the right atrium and left ventricle were involved in 35.1 (13) and 40.5% (15), respectively; the right ventricle was the site of metastases in 18.9% (7) and the left auricle in only 8.1% (3). More than one chamber of the heart was involved in 3.8% (2) of leukemia patients, in 23.5% (4) of the lymphoma group, and in 32.4% (12) of the other tumor groups, with an over-all incidence of 16.8% (18 of the 106 patients).

TABLE 1.—*Incidence of Cardiac Metastases from Visceral and Cutaneous Tumors*

	No. of Patients		
Type	Total	No. with Cardiac Involvement	Percentage
Carcinoma of lung	35	11	31
Carcinoma of breast	27	9	33
Malignant melanoma	5	3	60
Carcinoma of thyroid	15	2	13
Carcinoma of tail of pancreas	4	2	50
Carcinoma of rectum	16	1	6
Carcinoma of stomach	19	1	5
Carcinoma of prostate	5	1	20
Carcinoma of mouth	3	1	33
Carcinoma of kidney	3	1	33
Neuroblastoma	10	1	10
Ewing's tumor	4	1	25
Rhabdomyosarcoma	1	1	100
Renal carcinosarcoma	1	1	100
Medullary fibrosarcoma of bone	1	1	100
Other tumors	155	0	0
Total	304	37	12

TABLE 2.—*Distribution of Metastases in Thirty-Four Patients with Malignant Melanoma*

Site of Metastases *	No. of Patients	Percentage
Heart	15	44
Lymph nodes	28	82
Lung	23	68
Liver	21	62
Skin	19	56
Bone	16	49
Gastrointestinal tract	14	41
Kidney	12	35
Adrenal	12	35
Spleen	10	29
Pancreas	9	26
Genitourinary tract	6	18

* The brain was examined in 29 patients, with metastatic involvement found in 11 cases (38%).

CLINICAL MANIFESTATIONS

The antemortem diagnosis of cardiac metastasis has been made but infrequently,[7] and it seemed worth while to review the clinical data in the 106 patients with proved involvement of the heart by tumor. Fifty-nine patients had electrocardiograms, chest roentgenograms, and adequate clinical data to evaluate the cardiac status. The tumor diagnoses included leukemia in 33, lymphoma 8, bronchiogenic carcinoma 8, adenocarcinoma of breast 3, thyroid carcinoma 2, renal carcinoma 1, medullary fibrosarcoma of femur 1, rhabdomyosarcoma 1, gastric carcinoma 1, and Ewing's tumor 1. Thirty-eight of these 59 patients had no cardiac symptoms or abnormal cardiac physical findings (64.4%). Twelve patients exhibited symptoms and signs that could not be correlated with the presence of cardiac metastases (20.3%). In four instances there was a doubtful relationship between the clinical manifestations and autopsy findings (6.8%). In five patients (8.5%) it was reasonable to assume that cardiac symptoms developed as a result of involvement with metastatic disease.

TABLE 3.—*Distribution of Concomitant Metastases in 106 Patients with Cardiac Metastases*

Site of Metastases	No. of Patients	Percentage
Lymph nodes	103	96
Liver	82	77
Lung	65	61
Kidney	63	59
Spleen	62	58
Bone	50	47
Gastrointestinal tract	35	33
Adrenal	34	32
Pancreas	23	21
Genitourinary tract	19	18
Skin	15	14

Teleoroentgenograms were even less helpful in arriving at an antemortem diagnosis, since they were within normal limits in 50 instances as far as the heart was concerned. One chest roentgenogram showed the configuration of pericardial effusion, and this effusion was subsequently shown to be due to neoplastic involvement of the pericardium. In two other patients (3.4%) the cardiac silhouette was abnormal, perhaps as a result of the metastases. The abnormalities of the other six teleoroentgenograms (10.2%) could be more logically explained on other bases.

The electrocardiographic tracings of these 59 patients were within normal limits in 25 instances. Of the remaining 34, 9 showed abnormalities probably not related to cardiac metastases. In five such instances there was evidence of electrolyte disturbance associated with the administration of steroids. In others there was electrocardiographic evidence of myocardial and pulmonary infarc-

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[7] (*a*) De Loach, J. F., and Haynes, J. W.: Secondary Tumors of Heart and Pericardium: Review of the Subject and Report of 137 Cases, A. M. A. Arch. Int. Med. **91**: 224 (Feb.) 1953. (*b*) Dimmette, R. M.: The Ante-Mortem Diagnosis of Secondary Tumors of the Heart: Report of 4 Cases, Armed Forces M. J. **1**: 750, 1950. (*c*) Doane, J. C., and Pressman, R.: Antemortem Diagnosis of Tumors of the Heart, Am. J. M. Sc. **203**: 520, 1942. (*d*) Ritchie.[4] (*e*) Yater.[1b]

tion, subsequently confirmed at autopsy. Eight patients had electrocardiographic changes, the cause of which was obscure, and 17 exhibited abnormalities that were best explained by the metastatic cardiac lesions. From a glance at table 4, it is obvious that the electrocardiographic abnormalities observed were nonspecific and simply indicated the presence of myocardial disease not explainable on any other known basis. T-wave abnormalities were the commonest electrocardiographic evidence of cardiac metastases. The seven patients with low voltage and the five with ST segment deviations had pericardial and/or epicardial involvement at autopsy. It is our impression, both from this study and from the continuing search for evidence of metastases to the heart among the patients treated at Memorial Center, that frequent electrocardiograms will be of considerable value in helping with antemortem diagnosis of this complication.

Table 5 summarizes clinical manifestations noted in the 59 patients and correlates the antemortem status with the degree of cardiac involvement noted at autopsy. No significant differences were noted among the clinical, roentgenographic, and electrocardiographic findings and the size and degree of cardiac metastases. It is obvious that the number of patients in the various groupings is too small to permit any speculations.

TABLE 4.—*Electrocardiographic Findings in Fifty-Nine Patients with Cardiac Metastases*

	No. of Patients		
Normal electrocardiogram	25	42%	
Abnormal electrocardiogram	34	58%	
	No. of Patients		
Abnormal Electrocardiogram Probably Unrelated to Cardiac Metastases	9	15.2%	
Electrolyte imbalance			5
Myocardial infarction, healed			1
Myocardial infarction, acute			1
Pulmonary infarction, acute			1
Right axis deviation			1
Abnormal Electrocardiogram Possibly Due to Cardiac Metastases	8	13.5%	
T-wave abnormalities			7
Q-waves			1
Prolonged QT interval			1
Low voltage QRS complexes			1
ST segment abnormality			1
Shifting pacemaker			1
Auricular fibrillation			1
Right bundle branch block			1
Abnormal Electrocardiogram Probably Due to Cardiac Metastases	17	28.8%	
T-wave abnormalities			14
Low voltage QRS complexes			7
ST segment deviations			5
Q-waves			2
Prolonged A-V conduction			1
Arrhythmias (1 sinus arrhythmia, 1 auricular fibrillation, and 1 auricular flutter with 2:1 block)			3

COMMENT

The strong kneading action of heart muscle, its metabolic peculiarities, the restricted lymphatic connections, and the rapid flow of blood through the heart have been advanced as possible explanations of the relatively low incidence of cardiac metastases. Invasion of the heart occurs by embolism in the lymphatic channels or blood vessels or by direct invasion; the frequency is in the order listed even in the case of the more adjacent tumors, such as carcinoma of the lung or breast.[8] Kretz,[9] and others have shown that 75% of the coronary arterial blood flow returns to the right side of the heart via the Thebesian veins and coronary sinus, suggesting that embolic tumor cells may have a greater opportunity to lodge in the right chamber of the heart than the left. Our data lend support as far as the right auricle is concerned, but the left and right ventricles were involved with approximately the same frequency.

TABLE 5.—*Relationship of Antemortem Findings to the Degree of Involvement Found at Post Mortem*

Degree of Involvement	No. of Patients	Clinically Abnormal	Roentgenographically Abnormal	Electrocardiographically Abnormal
Slight	10	2	0	3
Leukemia	8	2	0	2
Lymphoma	1	0	0	0
Other tumors	1	0	0	1
Moderate	2	0	0	0
Leukemia	1	0	0	0
Lymphoma	1	0	0	0
Other tumors	0	..	..	..
Marked	6	1	0	2
Leukemia	2	0	0	1
Lymphoma	4	0	0	1
Other tumors	0	..	..	..

In our series of 500 autopsies, the heart was invaded by neoplastic disease in 106 instances, or 21%. This relatively high incidence is due, perhaps, in part to the inclusion of a disproportionate number of patients with leukemia or lymphoma, diseases that are associated with a high incidence of cardiac involvement. The fact that 44% of the patients who died of leukemia and 24% of those who succumbed to lymphoma had cardiac involvement is worthy of emphasis, since these diseases are, perhaps, more amenable to treatment by radiation and chemotherapeutic agents. Antemortem diagnosis of cardiac spread of these diseases might permit institution of specific therapy as well as a study of its effects on the heart involvement.

Repeated physical examination may reveal an unexplained tachycardia, a friction rub, or gallop rhythm, which, when taken together with electrocardiographic abnormalities, may permit an antemortem diagnosis of involvement of the heart or pericardium by neoplastic disease. When electrocardiograms are taken at frequent intervals and show definite changes not ascribable to any other form of heart disease, a presumptive diagnosis of metastatic heart disease can be entertained. Unfortunately, the only clue to cardiac involvement in our series of patients was suggested by electrocardiographic means and particularly by changes noted on serial tracings. Tachycardia was noted as frequently in patients without as in those with cardiac metastases. We found no single clinical picture or laboratory finding characteristic of cardiac metastases. It may be of significance that, since this study has started, suspicion of cardiac involvement by neoplastic disease has led in several instances to the premortem diagnosis of cardiac metastases at Memorial

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[8] Willis, R. A.: The Spread of Tumours in the Human Body, London, J. & A. Churchill, Ltd., 1933, p. 259.

[9] Kretz, J.: Über die Bedeutung der Venae minimae Thebesii für die Blutversorgung des Herzmuskels, Virchows Arch. f. path. Anat. 266: 647, 1928.

Center for the first time. The diagnosis was suggested by over-all consideration of the patient, together with careful electrocardiographic and roentgenographic studies. Occasionally studies of aspirated pericardial fluid may reveal the presence of cancer cells and help to establish the diagnosis.[7b]

If associated cardiovascular symptoms are also present, consideration of specific therapy in the form of irradiation is in order. Thus far no published data are available regarding the efficacy of such therapy. Moreover, factors such as the stage of the disease, its prognosis, and the sensitivity of the type of tumor to irradiation will limit the number of patients suitable for specific treatment. The frequency of cardiac involvement by leukemic cells or lymphoma, however, justifies continued efforts for early diagnosis of this complication, since these diseases are generally radiosensitive. One patient with Hodgkin's sarcoma showed a return to normal of his electrocardiogram with relief of cardiorespiratory distress following x-ray therapy directed to the heart. This case will be reported in detail separately.

No data are available with regard to the time heart metastases develop in patients with uncontrollable cancer, but the fact that they rarely occur without the presence of widespread metastases is borne out by our studies. No patient had cardiac metastases alone, and in all instances the disease was firmly entrenched in other tissues as well as the heart.

SUMMARY

Cardiac metastases were noted in 21% of 500 consecutive autopsies done on patients who had died of neoplastic disease. Cardiac involvement was found in 44% of the 119 patients who died of leukemia, in 44% of 34 patients with malignant melanoma, in 33% of 27 patients with breast cancer, in 31% of 35 patients with carcinoma of the lung, and in 24% of 69 patients with lymphoma. The pericardium was involved in 5.7% of the leukemia group and was the site of metastases in 49.4% of the remainder. The incidence of epicardial, myocardial, and endocardial metastases varied from 43 to 53%, from 32 to 46%, and from 20 to 27% in the patients who died from leukemia, lymphoma, and the group of other tumors. Gross evidence of tumor involvement was found in 9.5% of the leukemia patients, and in 64.7 and 72.9% of the lymphoma and other tumor groups. Tachycardia was a nonspecific finding, being present in the same frequency in patients who died of cancer without cardiac metastases as the 106 with tumor invasion of the heart. Cardiac metastases were always associated with widespread involvement of many other organs by cancer. Metastatic involvement of the heart was associated with symptoms and physical findings suggestive of heart disease in only 8.5% of the patients. Electrocardiographic findings suggestive but by no means specific were present in 28.8% of the patients with cardiac metastases. The teleoroentgenogram suggested cardiac involvement in 6% of the patients so studied. No correlation was noted between the size and extent of cardiac metastases and the clinical manifestations of heart disease.

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ANTISPASMODIC COMPOUND 08958 IN TREATMENT OF PARALYSIS AGITANS

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The many new drugs introduced in recent years to relieve the tremor, rigidity, and poverty of movement of paralysis agitans (Parkinson's disease) give testimony to the fact that no universally effective treatment for this disorder has been discovered. The introduction of trihexyphenidyl (Artane)[1] was an important advance in therapy, but its effectiveness is limited, and it has not entirely replaced the older solanaceous alkaloids, namely, atropine, scopolamine (Hyoscine), stramonium, and hyoscyamus. Initial successes with synthetic compounds, such as Rabellon,[2] which contains belladonna alkaloids, caramiphen hydrochloride (Panparnit),[3] diethazine (Diparcol),[4] and the antihistaminics, principally diphenhydramine (Benadryl) hydrochloride,[5] were encouraging, but these agents now seem to be inadequate for the majority of patients with paralysis agitans and have, for the most part, been reduced to the status of adjunct drugs. Similarly, agents tending to reduce spasticity, the curare derivatives and mephenesin (Tolserol),[6] seem to have very limited practical value in this disorder.

Perhaps the most significant observation to be made in the clinical study of paralysis agitans is that each patient's care must be strictly individualized. One patient will derive great benefit from a particular drug, while another may find that same substance entirely ineffective. Tolerance to drugs also has great individual variation. These factors emphasize the fact that, until a universally effective symptomatic treatment or cure is found, each patient's therapeutic program must be individually planned. Con-

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Compound 08958 and the chemical and pharmacological information were furnished by the Lilly Research Laboratories, Indianapolis.

Read before the Section on Nervous and Mental Diseases at the 102nd Annual Meeting of the American Medical Association, New York, June 3, 1953.

1. (*a*) Doshay, L. J., and Constable, K.: Artane Therapy for Parkinsonism: Preliminary Study of Results in 117 Cases, J. A. M. A. **140**: 1317 (Aug. 27) 1949; Newer Drugs in Treatment of Parkinsonism, Neurology **1**: 68 (Jan.-Feb.) 1951. (*b*) Corbin, K. B.: Trihexyphenidyl: Evaluation of New Agent in Treatment of Parkinsonism, J. A. M. A. **141**: 377 (Oct. 8) 1949.

2. Vollmer, H.: Comparative Value of Solanaceous Alkaloids in Treatment of Parkinson's Syndrome, Arch. Neurol. & Psychiat. **48**: 72 (July) 1942.

sequently, the greater numbers of preparations available, even though of limited range of therapeutic efficacy, the greater opportunity there is to provide a satisfactory program for each patient. Doshay[1a] recently emphasized this need for newer drugs. It is by virtue of this reasoning that the compound to be described was introduced.[7] This drug is by no means expected to replace any existing medication, but a sufficiently large number of patients have benefited from it to warrant further and more extensive study by different investigators.

CHEMISTRY AND PHARMACOLOGY

Compound 08958 is an aminopropanol with the chemical formula of 1-phenyl-1-cyclopentyl-3-piperidino-1-propanol hydrochloride. It, therefore, bears resemblance to trihexyphenidyl, the latter being 1-hydroxy-1-phenyl-1-cyclohexyl-3-piperidinopropane hydrochloride. The chemical structure is illustrated in the figure. Compound 08958 is supplied as the hydrochloride salt. It is a white crystalline solid and is extremely bitter to the taste.

Compound 08958 exhibits an activity approximately equal to that of atropine on isolated guinea pig intestinal strips stimulated with mecholyl or acetylcholine. On similar test preparations, it showed practically no antihistamine activity. In similar tests in which isolated strips of uterine muscle from the guinea pig were employed, Compound 08958 showed no effect. In trained dogs with Thiry fistulas, spasmolytic action on small intestines was about one-half that procurable with atropine when both agents were given intravenously. Effectiveness of Compound 08958 by oral administration could be demonstrated in anesthetized cats.

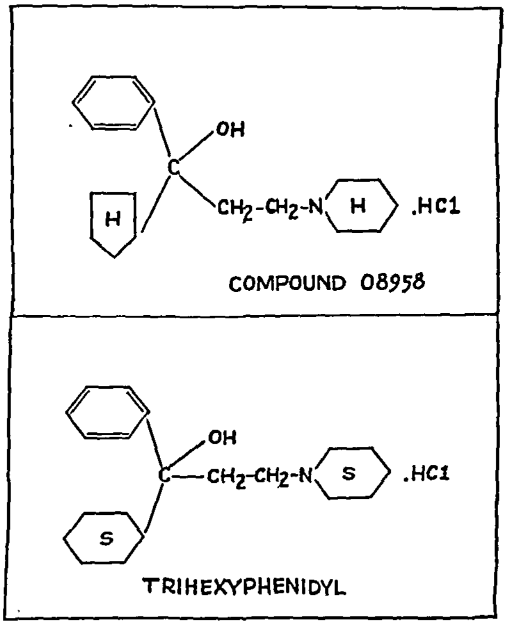
When Compound 08958 was administered intravenously in large doses to dogs, a fall in blood pressure with fairly slow recovery was observed. The manifestation was less acute with smaller doses. Respiratory stimulation followed the fall in blood pressure and was believed to be a secondary phenomenon to the hypotension.

Compound 08958 was about one-tenth as effective as atropine in blocking salivary flow in anesthetized dogs. Similarly, in anesthetized cats the drug was one-tenth as effective as atropine in blocking cardioinhibitory fibers of the vagus nerve. Mydriatic and slight local anesthetic activity could be demonstrated when solutions prepared from Compound 08958 were placed in the conjunctival sacs of albino rabbits.

Toxicity studies in rats and mice disclose Compound 08958 to be slightly, but not markedly, more toxic than atropine by either oral or intravenous administration. Chronic toxicity tests in rats over a one month period showed no evidence of damage, either grossly or microscopically.

PROCEDURE

A total of 67 patients were treated on the neurology service of the University Hospital. No selection was made as to type or severity of the paralysis agitans; each patient was accepted as he or she appeared at the clinic. It is known that it is extremely difficult to evaluate objectively the results of treatment in paralysis agitans. Even refined methods of testing fail to be conclusive in a disorder in which the patient's condition changes from moment to moment depending on his emotional reaction to coming to the clinic, the reaction to the physician and the examination, the state of fatigue, and the general physical condition. Even placebo controls mean very little when it is remembered that a patient who receives good relief from a new medication might well fail to report lack of benefit when placed on placebos, thereby admitting to himself that the new agent he had found and in which he had developed hope and faith was, in reality, worthless. In an attempt to diminish the suggestive connotations of treatment with a new drug, each patient was told that he or she was to be given a trial on several new drugs, any or all of which might help or prove worthless. In this way the patient was able to choose which of the new drugs, if any, he preferred without having to place all his faith in any one drug; he could, therefore, more realistically evaluate each medication.



For comparison the structural formulas of Compound 08958 and trihexyphenidyl (Artane) are illustrated.

To be considered useful, certain qualifications had to be fulfilled by the experimental drug: (1) it should give some degree of subjective relief to the patient's symptoms; (2) it should produce some objective evidence of improvement on neurological examination; (3) it should be as effective as the drugs already available or, if not as effective, should have some use as an adjunct

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3. Dunham, W. F., and Edwards, C. H.: Parkinsonism Treated with Panparnit, Lancet **2**: 724 (Nov. 6) 1948. Schwab, R. S., and Leigh, D.: Panparnit in Treatment of Parkinson's Disease, J. A. M. A. **139**: 629 (March 5) 1949.

4. Palmer, H., and Black, H.: Diparcol Therapy for Parkinsonism, New Zealand M. J. **48**: 487 (Oct.) 1949.

5. McGavack, T. H.; Elias, H., and Boyd, L. J.: Some Pharmacological and Clinical Experiences with Dimethylaminoethyl Benzhydryl Ether Hydrochloride (Benadryl), Am. J. M. Sc. **213**: 418 (April) 1947. Budnitz, J.: Use of Benadryl in Parkinson's Disease: Preliminary Report of 8 Cases, New England J. Med. **238**: 874 (June 17) 1948.

6. Stephen, C. R., and Chandy, J.: Clinical and Experimental Studies with Myanesin (Preliminary Report), Canad. M. A. J. **57**: 463 (Nov.) 1947. Schlesinger, E. B.; Drew, A. L., and Wood, B.: Clinical Studies in Use of Myanesin, Am. J. Med. **4**: 365 (March) 1948. Berger, F. M., and Schwartz, R. P.: Oral "Myanesin" in Treatment of Spastic and Hyperkinetic Disorders, J. A. M. A. **137**: 772 (June 26) 1948.

7. Magee, K. R., and DeJong, R. N.: Treatment of Parkinsonism with New Antispasmodic Compound: A Preliminary Report, Univ. Michigan M. Bull. **19**: 59 (March) 1953.

drug; and (4) the toxicity of the drug should not outweigh the beneficial effects.

The patients were thoroughly questioned regarding both their over-all impressions on the effect of the drugs and the presence of side-effects. For more critical appraisal they were asked to observe and report changes in specific daily activities, such as the alteration in the tremor while eating, dressing, shaving, or working, and to record alterations in gait, articulation, strength, and rigidity. Frequent examinations were carried out to observe changes in the tremor as brought out by improvement in holding objects, dressing, and writing. Changes in rigidity, associated movements, strength, speech, posture, and ability to perform skilled movements with greater ease and speed were similarly evaluated.

The majority of patients had taken either scopolamine or trihexyphenidyl, or both, and the effectiveness of these compounds and other drugs was noted and compared. Several other experimental drugs were used either before or after treatment with Compound 08958. If the patient reported best results with Compound 08958 after failure with the other experimental preparations, he again received it for prolonged trial.

RESULTS

The results of therapy with Compound 08958 are illustrated in table 1. Patients were divided into four groups. Group A consisted of those in whom Compound 08958 gave relief superior to that obtained by previous standard medications, trihexyphenidyl or scopolamine in the great majority, and also produced definite objective evidence of improvement on neurological examination, but did not cause significant side-effects when given in adequate therapeutic doses. Group B included those patients who found no difference between Compound 08958 and the previous medications. Objective evidence of improvement above that obtained with no treatment was essential. In group C were those patients who received some benefit from Compound 08958, but not as much as with previous medications. Patients in whom Compound 08958 was either ineffective or produced side-effects serious enough to preclude its use were placed in group D.

TABLE 1.—*Results of Therapy with Compound 08958*

Type of Paralysis Agitans	No. of Patients	Group A		Group B		Group C		Group D	
		No.	%	No.	%	No.	%	No.	%
Idiopathic	31	16	52	8	26	2	6	5	16
Postencephalitic	20	11	55	5	25	4	20	0	0
Arteriosclerotic	10	1	10	2	20	4	40	3	30
Totals	61	28	46	15	25	10	16	8	13

Of 61 patients with paralysis agitans, a total of 28, or 46%, found relief with Compound 08958 superior to that obtained with any other medication, while 15, or 25%, found no difference between the benefit of this compound and previous drugs. It was noted that patients with either idiopathic or postencephalitic disease made up the larger percentage of those in the first group (relief superior to that with other medications), the actual figures being 52 and 55%, respectively.

Table 2 shows the relative improvement in each component of the disease, using the same groups for classification as in table 1. As is true with the other atropine derivatives, rigidity was helped the most, but an unusually large number of patients felt that their tremor was materially improved.

Of particular interest are the four patients who received remarkable relief from oculogyric crises. Three of these patients have taken Compound 08958 for more than nine months with dramatic decrease in the frequency of the oculogyric attacks, but with abrupt recurrence if they stop taking the drug for several days. The fourth patient received complete relief from the attacks, but found Compound 08958 (and also its placebo preparation) so toxic that it had to be discontinued.

TABLE 2.—*Improvement in Major Symptoms After Therapy with Compound 08958*

Symptoms	Group A		Group B		Group C		Group D	
	No.	%	No.	%	No.	%	No.	%
Tremor	29	58	14	28	5	10	2	4
Rigidity	30	61	12	26	3	6	2	4
Bradykinesis	27	60	11	24	3	7	4	9
Oculogyria	4	100	..	..	..	..	..	..
Blepharospasm	..	..	1	50	..	..	1	50

Six patients in the series did not have paralysis agitans. Of these, only one patient with dystonic movements of his upper extremities obtained good results with Compound 08958. The other diagnoses were familial tremor, senile tremor, congenital athetosis, spastic pseudosclerosis, and the Hallevorden-Spatz syndrome. These patients received no benefit from Compound 08958 and experienced toxic reactions on relatively small doses.

Compound 08958 was available in 2.5 and 5 mg. tablets. Attempts were made to standardize dosage. It was evident that there was an extremely wide variation in the optimum therapeutic dose. The best results were obtained in the postencephalitic group, as is usually true when using atropine derivatives. This may well be due to the fact that these patients could tolerate much larger amounts of medication. Several patients were maintained on 30 to 50 mg. of Compound 08958 each day without apparent adverse effect. On the other hand, those with idiopathic and arteriosclerotic conditions could not tolerate the medication nearly as well. It became evident that, to secure maximum beneficial results, it was best to begin each patient on a very small dose, such as 2.5 mg. once each day, and to increase the dose by one tablet every two or three days to the point of tolerance. To patients giving a strong history of intolerance to the atropine derivatives, one-half of the 2.5 mg. tablet was given once daily; this amount was increased slowly as it was established that the patient could tolerate the preceding day's dose.

Significant side-effects consisted of dry mouth, dizziness or light headedness, blurred vision, nausea, weakness, and epigastric discomfort. In addition, the most serious side-effects of confusion and disorientation occurred early in the study when, after the initial high tolerance of the first few patients, each patient received 5 mg. tablets of Compound 08958 three times daily as a starting dose. The side-effects cleared promptly when the medication was discontinued or the dose was reduced.

Several patients who experienced severe reactions on the 5 mg. tablets are classified as poor results, although those who were again placed on Compound 08958 in smaller doses often experienced very good results. Two patients classified as poor results because of severe reactions noted the same side-effects when they were given a placebo preparation of Compound 08958. The number and percentage of side-effects are listed in table 3.

TABLE 3.—*Side-Effects in Patients Receiving Compound 08958*

Type	No. of Patients	%
Dry mouth	22	36
Blurred vision	7	11
Dizziness	15	25
Palpitation	2	3
Epigastric discomfort	5	8
Nervousness	7	11
Insomnia	1	2
Salty taste	3	5
Weakness	2	3
Nausea	3	5
Numbness	3	5
Disorientation	2	3

From this series, it is evident that a given dose of Compound 08958 is considerably more potent than trihexyphenidyl in both beneficial effect and side reactions. Twenty-one patients were known to have previously taken scopolamine, and, of these, 17 preferred Compound 08958. Forty patients were known to have taken trihexyphenidyl, and, of these, 21 preferred Compound 08958, 7 preferred trihexyphenidyl, and 12 could see no significant difference.

COMMENT

Many drugs have been introduced in the treatment of paralysis agitans with early enthusiasm only to be proved later to be of little or no value. This leads us to interpret the results obtained in this series cautiously and to keep in mind the many variables in evaluation as outlined above. Of course, final conclusions will depend on larger groups of statistics by different investigators. It does, however, seem safe to conclude that preliminary studies have demonstrated that Compound 08958 has been of value in a limited series of patients with paralysis agitans and that it should be studied further to ascertain its definitive place in the physician's armamentarium for the treatment of this disorder.

SUMMARY

A series of patients with paralysis agitans (Parkinson's disease) received a therapeutic trial with the antispasmodic, Compound 08958 (1-phenyl-1-cyclopentyl-3-piperidino-1-propanol hydrochloride). Of these patients, 46% received beneficial results superior to those obtained by standard medications. Side-effects were similar to those produced by other atropine derivatives. Careful adjustment of dosage was necessary to minimize these side reactions.

ADDENDUM

Since this article was prepared, Compound 08958 has been released by the Eli Lilly Company under the trade name Pagitane hydrochloride in 1.25 and 2.5 mg. tablets.

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BLOOD AND SPINAL FLUID TESTS FOR REAGIN AFTER TREATMENT OF NEUROSYPHILIS

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It has long been known that in patients treated for late neurosyphilis blood serum and spinal fluid tests for syphilis continue to give positive results for varying periods after treatment. Yet, many patients are still treated unnecessarily in the hope of reversing such positive reactions. This practice continues because few reports on the long-term follow-up of large series of patients have been published. Physicians are disturbed by the great variety of serologic responses that may be encountered in treated patients, some of whom become seronegative relatively soon while others remain seropositive for years. Even more disconcerting are the great fluctuations in titers obtained in quantitative tests and the great discrepancies in titers obtained by different kinds of tests that occur in some patients and not in others. Such serologic phenomena are not easily interpreted, but, as this report attempts to show, the persistence of reagin in varying amounts following treatment of known syphilis does not necessarily indicate the persistence of an active infection.

At Bellevue Hospital, 396 patients have been followed for more than five years after treatment of neurosyphilis with either malaria or penicillin. Neurosyphilis was chosen for the presentation of follow-up data because there was no question about the diagnosis of syphilis in patients with this complication. When first treated at Bellevue Hospital, all patients had active neurosyphilis, as shown by spinal fluid examinations. In my judgment, the neurosyphilis has been permanently inactivated in all of these patients for more than five years, despite numerous vagaries in the titers obtained in serologic tests for syphilis.

The concept of differentiating between activity and inactivity of neurosyphilis by means of spinal fluid examinations has been described by Dattner and me in numerous papers.[1] Briefly, we have shown that active neurosyphilis is best demonstrated by pleocytosis in association with positive results in specific tests of the spinal fluid for syphilis. After successful treatment, the spinal fluid cell count should become normal within three to four months and should remain normal, and there should be a more gradual improvement of results in other quantita-

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This study was aided by grants from the United States Public Health Service.

From the New York State Department of Health, the Department of Medicine, New York University-Bellevue Medical Center, and the Service of Syphilology, Bellevue Hospital.

[1] Dattner, B., and Thomas, E. W.: Management of Neurosyphilis, Am. J. Syph. 26: 21, 1942. Dattner, B.: Neurosyphilis and Latest Methods of Treatment, M. Clin. North America 32: 707, 1948. Dattner, B.: Evaluation of Spinal Fluid Examinations, J. Ven. Dis. Inform. 29: 63, 1948. Dattner, B.; Thomas, E. W., and de Mello, L.: Results of Penicillin Therapy for Neurosyphilis at Bellevue Hospital, ibid. 32: 33, 1951.

tive tests of the spinal fluid. The persistence of reagin in the spinal fluid for years after treatment does not prove that the disease is active, but high reagin titers usually show a significant decline during the first year after successful treatment. The clinical manifestations of neurosyphilis are, of course, important, but, obviously, normal function of permanently damaged tissues in the central nervous system cannot be restored by the killing of spirochetes. Clinical manifestations are indications of active disease only when there is unquestioned evidence of progressive disease.

This report is not to be construed as an evaluation of the relative effectiveness of malaria and penicillin therapy. Its purpose is rather to show what can be expected from tests for reagin performed after syphilis has been arrested by treatment, as shown by spinal fluid and physical examinations. No patients in this series showed clinical evidence of progressive neurosyphilis after the last treatment.

METHOD

The period of follow-up for each patient dates from the completion of the last successful treatment, as previously defined. Over 50% of patients in both groups prior to malaria or penicillin therapy had received varying amounts of metal therapy, sometimes irregularly for years, without permanent arrest of the infection. Serologic tests for syphilis were performed, as a rule, every two or three months during the first year after treatment and at three to six month periods thereafter. Spinal fluid examinations were made in most cases three to four months after treatment and at six month intervals thereafter. The latter schedule could not be completed for all patients, but, with few exceptions, every patient had at least one spinal fluid examination each year until two completely normal reports were received, and in numerous patients the examinations were continued yearly after results of all spinal fluid tests had become normal.

Several patients in each group who had no evidence of clinical relapse or of pleocytosis were retreated for the sole purpose of noting the effect on persistently high blood serum reagin titers. In these cases, the follow-up dates from the time the patients received therapy resulting in normal cell counts and decreases in spinal fluid reagin titers. Retreatment in such case had no significant effect on the titers of either the blood serum or the spinal fluid. Not only in patients with neurosyphilis but also in those with other forms of late syphilis I have proved to my satisfaction the futility of prolonging treatment or of retreatment for the sole purpose of lowering high reagin titers.

FOLLOW-UP OF MALARIA-TREATED PATIENTS

Patients treated with malaria received 10 daily injections of 0.06 gm. of oxophenarsine hydrochloride following the last fever and no subsequent therapy except for reasons previously outlined. The malaria-treated group consisted of 183 patients who were followed for 5 to 14 years after the last treatment. Two tabetic patients in the series had negative blood serologic test reactions when treated with malaria but they had active neurosyphilis, as indicated by spinal fluid examinations. They are excluded from table 1, which gives data on the persistence of positive serologic test reactions following treatment. One patient who was followed for more than six years with serologic tests had no spinal fluid examination after the first four years after treatment. This patient is included in table 1 but excluded from table 3, which gives data on the spinal fluid tests. The entire group is classified by race and sex: white males, 122; white females, 34; Negro males, 19; Negro females, 6; and Chinese males, 2.

Serologic Test Data.—The blood serum examinations in the early years of follow-up were done with qualitative Kahn and Wassermann tests at the Bellevue Hospital laboratory. From 1943, quantitative Kahn tests were done in the New York University-Bellevue Medical Center laboratory, and quantitative complement fixation tests were done by the New York State Department of Health laboratory. Additional Kolmer complement fixation tests were done in some cases. No patient was counted as having negative test results unless the results from all types of tests used were completely negative. During a follow-up of several years' duration, negative results from one or more serologic tests are frequently interspersed between slightly positive test results, and occasionally the titers in one or more tests fluctuate greatly. Minor variations in titers are probably caused by varying sensitivity of the tests, but extreme fluctuations may be due to intercurrent infections or unknown causes. In either case, a reactivation of syphilis cannot be assumed to have occurred when positive serologic test results are reported subsequent to negative tests results or when, in the case of positive results, the titers fluctuate, unless significant increases in titers from previous levels persist for several months.

Our present ignorance of the true nature of serologic tests for syphilis is emphasized not only by fluctuations in titers but also by the frequently occurring discrepancies among titers from different tests performed on the same specimen of blood. In my experience, wide fluctuations in titers may be reported for one test but not for another, or there may be for years pronounced sustained discrepancies in the titers obtained by different tests. The occurrence of such discrepancies suggests that the reagin tested for in the blood serum is a complex substance that may consist of more than one presumed antibody or that in some persons inhibitory substances interfere with the demonstration of reagin more in some tests than in others. The wide fluctuations in titer following treatment suggest that factors other than syphilis influence the tests in known syphilitic patients as well as in persons who have biologically false positive reactions to tests for syphilis. Whatever the explanation may be for the bizarre serologic patterns noted in a prolonged follow-up of treated syphilitic patients, it is reasonably certain that, in the absence of other evidences of relapse or progression of the disease, they do not indicate continued activity of the syphilitic process, and treatment should not be continued solely on the basis of such serologic patterns.

When the patients were last examined, the titers in all except a few serologic tests recorded as positive were relatively low (positive in dilutions of 1:2 or less or in units of less than 10), but positive test results with high dilutions on at least one occasion persisted for more than two years in a number of patients, who were retreated for that reason. As previously noted, retreatment did not result in lower titers.

Table 1 shows the number of patients followed for various periods (years) after treatment was stopped, the numbers still seropositive at the designated intervals, and the number becoming seronegative each year after cessation of treatment. To obtain the total number of patients who became seronegative, the numbers becoming negative each year must be added.

To obtain a possibly more accurate estimate of prolonged seropositivity, modified life table methods were used to compute the percentage expected to be seropositive for each designated period after the sixth year of follow-up. The results are shown in table 2. Because of the relatively small number followed for more than 11 years, estimated percentages by life table methods after the 10 to 11 year period are not given. Of the patients actually followed for 10 to 11 years, 71.7% were still seropositive (table 1) as compared to an estimated 62.8% who would be seropositive if all patients had been observed for that period (table 2).

Table 1.—*Results of Follow-Up Serologic Tests for Syphilis in Malaria-Treated Neurosyphilitic Patients with No Evidence of Clinical Relapse or Progression of Disease*

	Yr. After Treatment												
	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14
No. followed	181	181	181	181	181	169	154	137	119	92	55	24	7
No. still positive	173	166	166	159	152	140	126	109	93	66	35	15	5
% still positive	95.6	91.7	91.7	87.8	84.0	82.7	81.8	79.6	78.2	71.7	63.6	62.5	71.4
No. becoming negative each yr	8	7	0	7	7	5	4	5	5	9	3	0	1

Table 3.—*Results of Follow-Up Tests for Spinal Fluid Reagin in Malaria-Treated Neurosyphilitic Patients with No Evidence of Clinical Relapse or Progression of Disease*

	Years After Treatment												
	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14
No. followed	182	182	182	182	182	170	155	139	121	94	56	25	7
No. still positive	162	155	141	132	116	92	77	62	45	26	10	4	1
% still positive	89.0	85.2	77.5	72.5	63.7	54.1	49.7	44.6	37.2	27.7	17.9	16.0	14.3
No. becoming negative each yr	20	7	14	9	16	17	6	7	7	2	2	0	0

Spinal Fluid Test Data.—Spinal fluid specimens from patients treated with malaria were examined by means of the Bellevue Hospital Wassermann test during the early years of the study but subsequently were tested with the quantitative complement fixation test for syphilis that is used in the New York State Department of Health laboratory. Results of the latter test are reported in units. In my experience, it is an exceptionally reliable test but is less sensitive than the Kolmer complement fixation test. After 1948, the Kolmer test was used in addition to the New York State test for all patients in the penicillin-treated group but not for all in the malaria-treated group.

Table 3 shows the results of spinal fluid test follow-up in the same manner as results of serologic tests are shown in table 1. The bizarre serologic patterns noted in the blood serum of some patients were not found in the spinal fluid. Consequently, the reagin present in spinal fluid seems to be less influenced by unknown factors than is the reagin in blood serum. When spinal fluid reagin was found in a relatively large amount at the time of treatment, the titer invariably fell significantly within six months to a year after treatment, but it frequently remained at low levels for years without evidence of clinical progression. Patients with low spinal fluid reagin titers, when treated, often continued to have low titers for varying periods after treatment. When last examined, only six of the malaria-treated patients had spinal fluid reagin titers of more than 10 units. In general, reagin disappears more rapidly from the spinal fluid than from the blood serum, but the reverse may be true. As shown in table 3, more patients had negative results in tests for reagin in the spinal fluid than in tests for reagin in the blood serum, but the percentage of those who continued to have slightly positive spinal fluid test results for 10 years or more is higher than I anticipated.

Persistence of demonstrable reagin in the spinal fluid does not necessarily prove persistence of the syphilitic infection in the central nervous system, and it certainly does not prove failure to arrest the infectious process. My experience shows that if the spinal fluid cell count has become normal and there has been improvement in results of other spinal fluid tests for two years after treatment, the infection may be confidently expected to have been permanently arrested. At Bellevue Hospital, I have never observed relapse of neurosyphilis, as shown by an increased cell count and increases in results of other quantitative tests of the spinal fluid, more than two years after treatment, even though demonstrable reagin was still present.

Table 4 shows the types of neurosyphilis for which malaria treatment was given and gives the percentage of patients in each classification who had negative spinal fluid test results when last examined. The high percentage of negative results found in the asymptomatic group is probably best explained by the fact that most of the patients in this class were relatively young and presumably had had syphilis for a shorter time than most of the patients in other classifications; however, no patient in whom the duration of syphilis was known to be less than two years is included in this report. Age is not a determining factor in the duration of positive results in tests for spinal fluid reagin after treatment, but the duration of the infection usually is, even though occasionally patients treated for syphilis of only two years duration may have positive blood and spinal fluid test results for years after treatment.

FOLLOW-UP OF PENICILLIN-TREATED PATIENTS

For comparison with the malaria-treated series, only penicillin-treated patients who have been followed five years or more are included in this report. The penicillin dose varied from 2 to 9 million units, except in a few cases in which it was much higher because retreatment was necessary for relapse. Most of the patients received either 6 or 9 million units. Penicillin was not used to treat neurosyphilis at Bellevue Hospital until April, 1944, and treatment was started with doses that proved too low. The series followed for five years or longer consists of 213 patients. It was composed of 109 white males, 32 white females, 38 Negro males, 21 Negro females, and 10 males and 3 females who were Puerto Rican or Chinese.

TABLE 2.—*Percentage of Patients with Blood Serum and Spinal Fluid Positive for Reagin at Stated Intervals After Treatment of Neurosyphilis, Estimated by Modified Life Table Analysis*

Yr. After Treatment	% of Patients with Positive Serologic Test Results		% of Patients with Positive Spinal Fluid Test Results	
	Malaria-Treated	Penicillin-Treated	Malaria-Treated	Penicillin-Treated
6-7	81.1	72.6	53.8	62.7
7-8	78.6	66.2	49.9	61.1
8-9	75.2	....	44.8	....
9-10	71.4	....	38.8	....
10-11	62.8	....	36.0	....

Serologic Test Data.—Because all the penicillin-treated patients were studied with quantitative complement fixation and Kahn tests from the beginning of treatment, it is possible to give more accurate data on discrepancies in the titers obtained by different serologic tests and on fluctuations of titer than was the case with the malaria-treated group. At the time of treatment with penicillin, 24% had titers of 20 or less; 41% had titers between 20 and 60: and 35% had titers of 60 or higher.

TABLE 4.—*Diagnostic Classification of Malaria-Treated Patients and Percentage with Normal Spinal Fluid When Last Examined*

Diagnosis	No. of Patients	Patients with Normal Spinal Fluid When Last Examined	
		No.	%
Asymptomatic neurosyphilis	20	16	80.0
Meningovascular syphilis	54	35	64.8
Tabes dorsalis	57	33	57.9
General paresis	29	14	48.3
Taboparesis	22	9	40.9
Total	182	107	58.8

That there may be pronounced discrepancies in the results from various serologic tests in cases of active neurosyphilis is shown by the facts that, when treated with penicillin, eight patients had negative results with the Kahn test and positive results with the complement fixation test, two had positive Kahn test results and negative complement fixation test results; nine had low titers in the Kahn test and high titers in the complement fixation test (i. e., Kahn test titers of 4 or less and complement fixation test titers of 32 or higher), and 1 had a titer of 64 in the Kahn test and extremely low titers in the complement fixation test.

Following treatment, pronounced fluctuations in the titers of one or more tests occurred in 20 (9%). These results included such findings as a positive serologic test result of 4 or more units interspersed between negative test results or pronounced increases in titer with subsequent drops, e. g., increases from 4 to 64 units followed by rapid or gradual falls to previous levels. When last examined, 75 patients (35%) showed marked discrepancies in titers determined in various serologic tests, 33 had negative Kahn and positive complement fixation test results, and 2 had positive Kahn and negative complement fixation test results. The greatest discrepancies occurred between the Kolmer complement fixation test and the Kahn test. As performed at the New York University-Bellevue Medical Center, the Kolmer test was usually the most sensitive of the three, and usually its results were reported in higher units than those of the New York State complement fixation test. Examples of extreme discrepancies are those in the cases of three patients in whom the Kahn test results became negative after treatment and remained negative throughout the subsequent years of follow-up while the Kolmer test titers were never lower than 64 units. Four patients had negative Kahn test results and positive Kolmer test titers of 32 when last examined, and two had Kahn test titers of 64 and complement fixation test titers of less than 10.

TABLE 5.—*Results of Follow-Up Serologic Tests for Syphilis in Penicillin-Treated Neurosyphilitic Patients with No Clinical Evidence of Relapse or Progression of Disease*

Yr. after treatment	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9
No. followed	213	213	213	213	213	131	77	19
No. still positive	201	194	186	181	171	95	51	12
% still positive	94.4	91.1	87.3	85.0	80.3	72.5	66.2	63.2
No. becoming negative each yr.	12	7	8	5	10	10	5	0

As previously mentioned, findings such as these emphasize our present ignorance of the composition and formation of reagin in the blood serum, where its presence in some syphilitic, as in some nonsyphilitic persons, apparently is influenced by factors other than syphilis, since I had no reason to believe from clinical and spinal fluid examinations that syphilis was active in any patient. As a matter of fact, all tests for reagin are based on the principle of identifying antibodies, and, by analogy with other antibodies, it is not surprising that reagin should continue to be found in blood serum and spinal fluid long after the syphilitic infection has been arrested or cured. Also, in view of the tendency of some persons to have reagin in the blood serum (but not in the spinal fluid) from causes other than syphilis, the fluctuations in serologic test titers after treatment might have been anticipated.

In table 5 data on the serologic tests done in the penicillin-treated patients are summarized. Comparison of table 5 with table 1 shows that higher percentages of malaria-treated patients than of penicillin-treated patients remained seropositive for longer periods. This finding cannot be interpreted as necessarily implying that penicillin was a more effective treatment than malaria, since, as previously noted, persistence of reagin after treatment does not prove continued activity of the infection.

Spinal Fluid Test Data.—Only 203 patients are included in the report on spinal fluid tests in table 6, because 10 patients who were followed with serologic tests for more than five years refused to have spinal fluid examinations after the third or fourth year. Table 6 shows that, for the 5 to 6 year period of follow-up, the percentage of patients with positive spinal fluid test results is almost exactly the same as in the malaria-treated group. After the sixth year, however, lower percentages are found in the malaria-treated group. The pronounced drop in penicillin-treated patients followed after the sixth year may have influenced the percentages after the 5 to 6 year period of follow-up, but a much better explanation is available. Ten patients recorded as having positive spinal fluid test results in table 6 had negative New York State complement fixation test results and slightly positive Kolmer test results when last examined and, thus, by definition were classified as having spinal fluid positive for reagin. The Kolmer test was not done on many of the malaria-treated patients. In table 7 the various types of neurosyphilis are classified, and the percentage of patients in each classification who had completely negative spinal fluid test results is shown.

TABLE 6.—*Results of Follow-up Tests for Spinal Fluid Reagin in Penicillin-Treated Neurosyphilitic Patients with No Evidence of Clinical Relapse or Progression of Disease*

Yr. after treatment	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9
No. followed	203	203	203	203	203	125	76	19
No. still positive	187	172	155	142	129	69	40	10
% still positive	92.1	84.7	76.4	69.9	63.5	55.2	52.6	52.6
No. becoming negative each yr	16	15	17	13	13*	1*	1*	0*

* In comparing these data with those in table 3 it should be noted that three additional patients in the 5-6 year period, two each in the 6-7 and 7-8 year periods, and three in the 8-9 year period had negative results in the New York State complement-fixation tests of the spinal fluid but positive results in the Kolmer tests. The latter tests were not done on most of the malaria-treated group.

TABLE 7.—*Diagnostic Classification of Penicillin-Treated Patients and Percent with Normal Spinal Fluid When Last Examined*

Diagnosis	No. of Patients	Patients with Normal Spinal Fluid When Last Examined	
		No.	%
Asymptomatic neurosyphilis	40	27	67.5
Meningovascular syphilis	48	20	41.7
Tabes dorsalis	53	16	30.2
General paresis	41	7	17.1
Taboparesis	18	6	33.3
Spastic paraplegia	3	0	00.0
Total	203	76	37.4

Table 2 gives the estimates obtained by modified life table methods, of the probable percentages of patients who would have been found to have positive serologic test results and positive spinal fluid test results if all patients had been observed for the specified periods. When the previously mentioned variables are considered, the differences in the percentages between the malaria-treated and penicillin-treated groups are not significant. Even if they were, they could not be used to evaluate the effectiveness of treatment for the reasons mentioned.

SUMMARY

1. From data obtained in a 5 to 14 year follow-up of 181 patients treated for neurosyphilis with malaria therapy and a 5 to 8½ year follow-up of 213 similar patients treated with penicillin, it was found that positive results from serologic tests for syphilis persisted in 80 to 84% of patients followed for 5 years and in 70% of patients followed for 10 years after treatment. 2. Positive results from tests for spinal fluid reagin were found in 63% of patients followed for 5 years and in 27.7% of patients followed for 10 years after treatment. 3. The futility of retreating patients solely because of the persistence of reagin in blood serum and spinal fluid is stressed. In cases in which retreatment was given to note the effect on high titers of blood or spinal fluid reagin no appreciable change in titers was obtained. 4. During the years of follow-up, pronounced discrepancies among the titers obtained by different types of serologic tests occurred in many patients in both groups (in 35% of those treated with penicillin). Fluctuations in the titers obtained with a single type of test occurred with one or more of the serologic tests in some patients in both groups (in 9% of those treated with penicillin). 5. It is suggested that reagin in the blood serum is a complex substance consisting of more than one presumed antibody and that factors other than syphilis may influence the production of one or more of these "antibodies" in known syphilitic patients as well as in persons who have biologically false positive results in tests for syphilis. 6. Spinal fluid reagin is rarely influenced by the unknown factors that affect blood serum reagin and cause changes in serologic test results. 7. Relapse of neurosyphilis, as determined by increases in spinal fluid cell count and in results of other quantitative spinal fluid tests, never occurred later than two years after treatment had inactivated the infection.

39 Columbia St. (7).

Human Engineering.—Until quite recently it was accepted that the equipment a human operator had to use was fixed by engineering considerations only and was not thereafter open to change. Efforts to secure better man-machine performance were made by selecting operators with especially good aptitude or by giving them extensive training on the task. This is a rather wasteful procedure, because a proportion of potential operators must be rejected, because the selection process and training have to be kept going, and because, in spite of all this, the overall results may be below expectation. . . . During the second World War the need for getting efficient performance out of communication and control systems containing human operators brought into being a field of study known variously as ergonomics, biotechnology and work space design, but perhaps best as "human engineering." Human engineering is a blend of various biological sciences—physiology, anatomy, physical anthropology and especially applied experimental psychology, together with various branches of engineering. It aims to determine human capacities, to provide principles governing the design of machines for efficient human use, and to ensure an effective integration of man and machines for the accomplishment of an overall task.—J. C. Lane, M.D., Human Engineering: A New Technology, *Medical Journal of Australia,* July 4, 1953.

CLINICAL NOTES

CHLORDANE INTOXICATION

REPORT OF A CASE

John L. Dadey, M.D.
and
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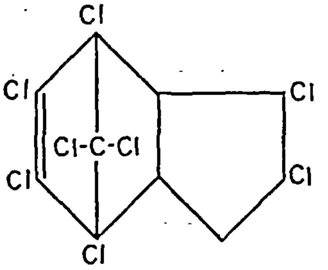
Chlordane is a recently developed insecticide with the empiric formula $C_{10}H_6Cl_8$. This chlorinated hydrocarbon is said to be 1,2,4,5,6,7,8,8-octachloro 2,3,3a,4,7,7a-hexahydro 4,7-methanoindene, with the structural formula shown in figure 1.

The commercially available technical product is not a pure substance, but contains in addition to chlordane some five or six closely related compounds whose respective proportions may vary.[1] The formulations of technical chlordane include oil solutions, emulsions, dusts, and wettable powders. These find extensive use in the eradication of such household pests as flies, cockroaches, fleas, and mosquitoes as well as agricultural crop enemies such as grasshoppers and certain beetles. Because of the widespread domestic, industrial, and agricultural distribution of the various preparations of chlordane, cases of accidental poisoning may be expected from time to time. These should be reported in order to alert physicians to the early recognition and proper treatment of chlordane intoxication.

The toxic action of chlordane on laboratory animals has been rather extensively studied. Stohlman, Thorp, and Smith[2] determined the LD_{50} of chlordane administered orally as a single dose in olive oil to be in the range of 200 to 250 mg. per kilogram of body weight for rats and 300 mg. per kilogram for rabbits. The rats given fatal doses usually exhibited dyspnea, labored respirations, tremors, convulsions, and coma before death, and the changes in these animals most frequently noted post mortem were ileitis, mottled liver, and pulmonary congestion, which was usually associated with focal hemorrhages. Stohlman and Smith[3] found that rabbits acutely poisoned with chlordane exhibited generalized tremors, opisthotonos, and tonic and clonic convulsions, and that these changes were diminished or abolished by appropriate doses of barbiturates. The LD_{50} of chlordane administered intravenously was increased in amounts approximating 20 to 60 mg. per kilogram in rabbits treated with these drugs.

In chronic toxicity studies reported by Stohlman and his associates,[2] rats that were given a semisynthetic diet containing 0.1% of chlordane usually died in about 10 days, and impaired liver function was demonstrated in rats that were similarly given smaller doses. The principal necropsy findings in rabbits in which chronic intoxication was produced through inclusion of chlordane in the diet were fatty and hyaline degeneration of the liver cells, degenerative changes in the proximal convoluted renal tubules, a low grade enteritis, and exudates throughout the pulmonary passages and alveoli. Albuminuria was a common development in nearly all of such rabbits. Lehman[4] found that dogs are more susceptible to chronic poisoning by chlordane than are rats. Ingle and others[5] have expressed the belief that chlordane is stored in the body in adipose tissue. Ingle reported that a group of rats that had been maintained for 80 weeks at dietary levels of 150 ppm of chlordane did not exhibit the hyperexcitability and tremors that are considered to be the earliest manifestations of chlordane intoxication in rats. When food was withheld from four of these rats, they all died after 36 hours, exhibiting the changes characteristic of poisoning by chlordane. The inference was drawn that lethal doses were released from storage when fats were mobilized in response to starvation.



Chlordane

Fig. 1.—Structural formula of chlordane.

The hazard of skin absorption of chlordane preparations was the subject of studies by Ambrose and his associates.[6] These workers applied chlordane in cottonseed oil and in ethyl alcohol to the depilated skin of albino rats. The administration of chlordane in cottonseed oil by this method in amounts of 50 mg. per day for three days, or for a total dose of 217 mg. per kilogram, caused fatalities among all rats tested. Chlordane in alcohol, however, when similarly administered in like doses produced no evidence of intoxication. These findings suggest that in some, but not all, preparations of chlordane the hazard of skin absorption may be equal to that of ingestion.

Stohlman and co-workers investigated the relationship between the dose of chlordane administered to rabbits and the quantity of organic chlorine which subsequently appeared in the urine. The data of their report have been used by us for the construction of a curve (fig. 2) that

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Dr. Robert M. Laughlin, to whose service the patient was admitted, gave permission to publish a report of this case.

From the Department of Medicine, University of Pittsburgh Medical Center (Dr. Dadey), and Graduate School of Public Health, University of Pittsburgh (Dr. Kammer).

1. Lehman, A. J.: Personal communication to the authors.

2. Stohlman, E. F.; Thorp, W. S., and Smith, M. I.: Toxic Action of Chlordane, Arch. Indus. Hyg. **1**: 13 (Jan.) 1950.

3. Stohlman, E. F., and Smith, M. I.: Toxicological Action and Metabolic Fate of Chlordane, Advances in Chem. Series **1**: 288, 1950.

4. Lehman, A. J.: Pesticides, Subacute and Chronic Toxicity, A. Food & Drug Officials **16**: 47 (April) 1952.

5. (*a*) Ingle, L.: Chronic Oral Toxicity of Chlordane to Rats, A. M. A. Arch. Indus. Hyg. **6**: 357 (Oct.) 1952. (*b*) Lehman, A. J., and Patterson, W. I.: Pesticides, Some Chemical Considerations and Toxicological Interpretations, A. Food & Drug Officials **17**: 3 (Jan.) 1953.

6. Ambrose, A. M.; Christensen, H. E.; Robbins, D. J., and Rather, L. J.: Toxicological and Pharmacological Studies on Chlordane, A. M. A. Arch. Indus. Hyg. **7**: 197 (March) 1953.

shows this relationship for the first 24 hour period following chlordane administration.

The effect on humans of continuous exposures to small amounts of chlordane was the subject of a report by Princi and Spurbeck,[7] who presented a clinical study of 34 workers engaged from one to three years in the manufacture and formulation of chlordane and the chemically related compounds aldrin and dieldrin. The concentrations of mixtures of these three substances in the atmosphere of the work environment were estimated on the basis of the chlorine content of the air to be somewhat in excess of 5 mg. per cubic meter. The authors assumed that there was some absorption of these compounds through the skin in addition to the obvious pulmonary route. Thorough clinical examinations of the workers thus continuously exposed did not show any relevant central nervous system, hepatic, hemopoietic, or renal changes. Although it is impossible from the data in the published paper to calculate an approximate dose that these workers might have absorbed, the study does establish that there is some quantity of chlordane that may be taken into the body daily for at least three years without discernible ill-effect. A reasonably precise definition of this quantity needs to be established by further studies.

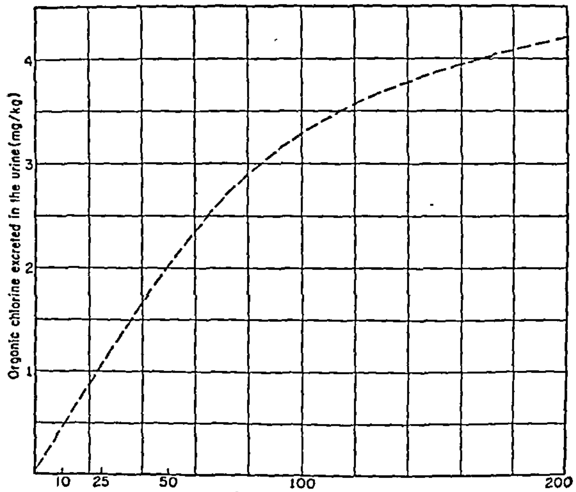

Fig. 2.—Urinary excretion of organic chlorine during the first 24 hours following administration of chlordane as a function of the dose administered to rabbits.

The published literature available to the authors contains records of two previous cases of chlordane intoxication. One of these, described by Lemmon and Pierce,[8] has been questioned as an authentic case. It occurred in a 33-year-old housewife who was exposed for an unknown number of hours in a closed room to the vapors of a 1 or 2% solution of chlordane that had previously been applied to the room surfaces for insecticidal purposes. The patient was hospitalized four days later because of nausea, vomiting, and a cough productive of whitish sputum. There was a history of alcoholism before and during the chlordane exposure. The pertinent positive findings were an enlarged liver, and abnormal results of cephalin flocculation and sulfobromophthalein (Bromsulphalein) tests. A suspicion of hepatic cirrhosis would seem to be reasonable in this case. Heyroth,[9] in a communication discussing this report, points out that the absence of any mention of the expected neurological manifestations of chlordane poisoning is good reason for doubting the assumption that chlordane was the cause of illness in this patient.

Lensky and Evans [10] reported a case of a 15-month-old baby who accidentally drank a small amount of chlordane suspension. The amount taken by this child weighing 9 kg. was believed to be not more than a mouthful (less than 100 mg.) of the suspension. Three hours after ingestion there developed a generalized tremor followed by convulsions. Risus sardonicus, opisthotonus, bilateral ankle clonus, and generally hyperactive reflexes were present. The convulsions were controlled by the use of sodium amobarbital. During the next few days only moderate ataxia and irritability remained, and these progressively diminished and disappeared after three weeks. This case strongly suggests that treatment should be immediately directed toward the removal of chlordane from the body even when the amount ingested is apparently trivial.

REPORT OF A CASE

At 7:30 a. m. on March 2, 1953 (five hours before hospital admission), an 18-year-old college girl swallowed a teaspoonful of a commercial insecticide containing 40% agricultural grade chlordane (24% chlordane and 16% related compounds), 10% oil of pine, 10% polyethylene glycol, and 40% of petroleum distillate. The patient had mistaken this preparation for camphorated opium tincture (paregoric), which she customarily took for dysmenorrhea. The mistake was discovered at once. She ate some bread and milk for its possible value as an antidote, and went to school. At 9 o'clock, one and one-half hours later, she became nauseated and vomited; at 10:30 o'clock she experienced diplopia, blurring of vision, and twitching of the extremities. About noon, while lying down at the student infirmary, she had a generalized convulsion that is said to have lasted "a few minutes," following which arrangements were made for her admission to Woman's Hospital of Pittsburgh. En route to the hospital, four and one-half hours after she had swallowed the chlordane, she vomited a second time. The vomitus was said to have contained the bread and milk eaten earlier and to have had an odor suggestive of the chlordane solution. There was no history of any previous convulsive seizure, and the systemic review was otherwise noncontributory

The physical examination revealed a normally developed, slender, white girl, weighing about 50 kg., who was apparently comfortable and able to provide the historical details save for those of the convulsive seizure, which were furnished by her sister. There was a swollen area of contusion on the right frontal region; the tongue was lacerated and ecchymotic; and there was tenderness to palpation at the costovertebral angles. The general physical and neurological examinations otherwise revealed no abnormality, save that the patient was menstruating. The admission complete blood count showed normal values, and the urinanalysis revealed the presence of albumin and cells, which were considered due to menstrual discharge. Since there was at this time no satisfactory way of computing the dose of chlordane absorbed, certain blood chemistry determinations were made for their possible value as base lines on which to make future judgments relative to hepatic and renal functions. The blood levels of the following substances were found to be normal: nonprotein nitrogen, chlorides, carbon dioxide, sodium, potassium, calcium, total proteins, albumin, globulin, and cholesterol. Analysis of a pooled specimen of urine collected during the first 24 hours of hospitalization revealed 1 mg. of organic chlorine per 100 ml., the total amount excreted during the period being 22 mg.

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[7] Princi, F., and Spurbeck, G. H.: A Study of Workers Exposed to the Insecticides Chlordane, Aldrin, and Dieldrin, A. M. A. Arch. Indus. Hyg. 3: 64 (Jan.) 1951.

[8] Lemmon, G. B., Jr., and Pierce, W. F.: Intoxication Due to Chlordane, J. A. M. A. 149: 1314 (Aug. 2) 1952.

[9] Heyroth, F. F.: Chlordane Poisoning, J. A. M. A. 150: 715 (Oct. 18) 1952.

[10] Lensky, P., and Evans, H. L.: Human Poisoning by Chlordane, J. A. M. A. 149: 1394 (Aug. 9) 1952.

After her stomach was emptied and lavaged, the patient was not permitted to take anything by mouth for 24 hours. She was given fluids intravenously to prevent superposition of dehydration and electrolyte depletion upon the action of a possible nephrotoxic agent and possibly to enhance the renal excretion of this toxin. Accordingly, she received 2,000 ml. of 10% glucose in water and 1,000 ml. of 10% glucose in saline with water-soluble vitamins intravenously during the ensuing 20 hours. During this time her urinary output was 2,230 ml. Since there was no further convulsion or nausea, a soft diet was started on the day following admission to the hospital. The costovertebral angle tenderness was no longer present after the third day, and the remainder of her hospital course was uneventful. The blood counts and urinalysis findings continued to be normal; the blood chloride level, and serum levels of sodium, potassium, and phosphate were redetermined and found normal, as was thymol turbidity; and the cephalin flocculation test was negative. The patient was discharged from the hospital on March 7, 1953, five days after admission. After her discharge she continued to do well. An electroencephalogram, performed on April 28, was normal, and visual field examinations on May 5 revealed no abnormality.

COMMENT

As with other chemical poisons, the events to be expected in a case of acute poisoning by chlordane depend upon the dose absorbed. On the advice of Lehman,[1] chlordane and its closely related compounds in a solution of technical chlordane are to be considered together in the estimation of the dose administered. The amount of chlordane ingested in the present cases is calculated on this basis to have been 40% of 4 gm., or 1.6 gm. (32 mg. per kilogram). It should be assumed that the amount actually absorbed was less than this, but how much less cannot be definitely established. In any case, the amount absorbed was sufficient to cause transient minor central nervous system changes followed by convulsions, from all of which the patient recovered spontaneously. In a case of poisoning in an infant previously reported,[10] it was necessary to administer a barbiturate for the control of convulsions. These two cases suggest that acute poisoning in man by ingestion of a single dose of chlordane results in a series of central nervous system changes that culminate in convulsions. It is likely that a dose insufficient to produce central nervous system changes is also insufficient to produce significant changes in other organ systems. On the basis of results of acute toxicity studies in animals, it may be predicted that doses large enough to produce severe convulsions will also cause hepatic necrosis. Since the administration of chlordane over prolonged periods has produced damage of the renal convoluted tubules, this change needs to be borne in mind as a possibility in cases of poisoning among humans.

It may prove possible to estimate with satisfactory accuracy the dose of chlordane absorbed from the level of organically bound chlorine in the urine. As demonstrated by the curve in figure 2, which is based upon Stohlman's data, there is a reasonably good correlation of this type in rabbits administered single doses of chlordane. If a like correlation exists for humans, then it is possible to make an estimation of the amount of chlordane retained in the present case. The 24 hour urinary excretion of organic chlorine was 22 mg. which in this 50 kg. patient was 0.44 mg. per kilogram. From the curve in figure 2 this excretory level is representative of a retained dose of 10 mg. per kilogram. The total dose retained therefore would be 10 mg. times 50, or 500 mg. of chlordane, a value that seems reasonable in consideration of the vomiting that occurred one and one-half and again four and one-half hours following ingestion of 1.6 gm. of chlordane dissolved in oil and petroleum distillate. Because of the limitations of translating animal data to humans, no estimation is offered of a probably fatal single dose of chlordane for humans, or of the relationship of the retained dose in the presently reported case to this value. The data in the present case suggest that a dose of chlordane that results in an urinary excretory value of about 0.5 mg. of organic chlorine per kilogram during the ensuing 24 hours is sufficient to cause only transitory central nervous system changes from which the patient may be expected to recover spontaneously and completely. Because of the obvious advantage of knowing the absorbed dose at the earliest possible time, it is hoped that the relationship between dose and the urinary level of organic chlorine will be more thoroughly studied in any future cases. The practical application of routinely determined urinary organic chlorine levels as an industrial hygiene control measure among workers who are regularly in contact with chlordane is strongly suggested.

Barbiturates, especially those that are detoxified in extrahepatic tissues, may be considered to have established value in the convulsive state produced by chlordane. It is possible at this time only to assume that the usual therapeutic measures effective for hepatic necrosis will be useful in the more advanced stages of poisoning. The occurrence of lower nephron nephrosis following a single dose of chlordane is not predictable from experimental data or case reports now at hand, but this serious change should always be borne in mind. The present case, as well as one previously reported, suggests that the ingestion of 10 mg. of chlordane per kilogram of body weight, and perhaps less, is an indication for gastric lavage at the earliest feasible time.

SUMMARY

A case of human intoxication with chlordane is presented in which the dose ingested was approximately 30 mg. per kilogram of body weight and the amount retained after vomiting is estimated to be 10 mg. per kilogram of body weight. Experiences with chlordane intoxication in laboratory animals and one other human case are discussed. Central nervous system changes manifested by convulsions, with or without coma, are the outstanding characteristics of acute chlordane intoxication. Measures for handling future cases are discussed and include early evacuation of stomach contents, anticonvulsive agents, and, in severe cases, such measures as may be necessary to counteract liver damage as well as possible renal tubular changes.

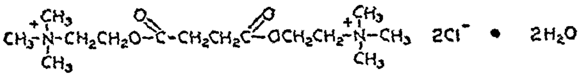
COUNCIL ON PHARMACY AND CHEMISTRY

NEW AND NONOFFICIAL REMEDIES

The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its action will be sent on application.

R. T. STORMONT, M.D., *Secretary.*

Succinylcholine Chloride.—Anectine Chloride (Burroughs Wellcome).—Quelicin Chloride (Abbott).—$C_{14}H_{30}Cl_2N_2O_4.2H_2O$.—M.W. 397.34.—Choline succinate dichloride dihydrate.—The structural formula of succinylcholine chloride may be represented as follows:



Actions and Uses.—Succinylcholine chloride is a myoneural blocking agent that produces a skeletal muscle relaxant effect somewhat resembling that of curare and curare-like compounds. It likewise produces muscle relaxation as an adjunct to anesthesia during surgical procedures and in conjunction with electroshock therapy. Succinylcholine chloride is a shorter-acting drug than tubocurarine chloride and, therefore, is particularly suited for endotracheal intubation, endoscopy, and other short, manipulative procedures. In contrast to tubocurarine chloride, succinylcholine chloride is not antagonized by anticholinesterases; and the injection of such drugs as physostigmine, neostigmine, procaine, or edrophonium prolongs its action. This suggests that the short action of the drug is caused by relatively rapid hydrolysis of the ester linkage by enzyme action, such as that of cholinesterases. Presumably, the drug is rapidly hydrolyzed into nontoxic choline and succinic acid and is not dependent on the liver or kidneys for detoxication or excretion.

Tachyphylaxis or cumulative action is not ordinarily encountered, but like other myoneural blocking agents, succinylcholine chloride in extremely high doses may produce respiratory depression, persisting after the diaphragmatic response to phrenic nerve stimulation has returned. Facilities for controlled, involuntary respiration and for the administration of oxygen to insure adequate respiratory exchange should be available for combating respiratory paralysis. *Neostigmine or other anticholinesterases and edrophonium are contraindicated as antidotes for succinylcholine chloride.* Succinylcholine chloride should be used with caution in patients with severe liver disease, severe anemia, and malnutrition or in those suffering from polyphosphate insecticide poisoning who may have decreased plasma-cholinesterase activity that might intensify and prolong the action of the drug. In such patients, artificial respiration and oxygen therapy may be supplemented by the administration of plasma or whole blood to restore cholinesterase activity.

Because succinylcholine chloride is rapidly hydrolyzed by alkaline solutions, it loses its potency rapidly when mixed with thiopental sodium. For this reason, separate injection is preferable.

Succinylcholine chloride is quite stable when stored under refrigeration. When exposed to room temperature for a long time, its potency gradually decreases; however, biological assay has shown that solutions may be kept as long as three months at room temperature without significant loss of potency.

Dosage.—Succinylcholine chloride is administered in solution by the intravenous route, either as a single intermittent injection or as a continuous drip infusion.

For short procedures, the suggested adult dose is 20 mg. for a single injection; the optimum dose ranges from 10 to 30 mg. Within this range each such dose usually produces relaxation in about one minute. Maximum muscular relaxation may persist for about two minutes, followed by rapid recovery within the next few minutes. Since the maximum safe dosage of the drug has not been determined, and since the response obtained may vary in different patients, careful observation of respiratory exchange is essential to avoid paralytic apnea.

For prolonged procedures, sustained relaxation may be obtained with a continuous intravenous drip infusion at a dosage rate of 0.5 mg. to 10 mg. (average 2.5 mg.) per minute for adults. The solution of the drug to be infused may be prepared by dilution of 500 mg. of succinylcholine chloride in 250 or 500 cc. of sterile isotonic sodium chloride solution or 5% dextrose solution, thus providing a 0.1% (1 mg. per cubic centimeter) or a 0.2% (2 mg. per cubic centimeter) solution, respectively. The degree of relaxation can be altered in approximately 30 seconds by regulating the rate of the drip infusion. Careful supervision of the infusion and the control of respiration are absolutely essential to avoid hypoxia.

Tests and Standards.—

Physical Properties: Succinylcholine chloride is a white, odorless, slightly bitter powder, m.p. of the hydrate, 156-163°. It is very soluble in water, very slightly soluble in benzene and chloroform, and practically insoluble in ether. The amount which dissolves in alcohol to form 100 ml. of solution is 0.42 gm. Aqueous solutions of succinylcholine chloride are relatively unstable at room temperature. The pH of a 2% solution is 3.0-4.5.

Identity Tests: Dissolve about 50 mg. of succinylcholine chloride in 10 ml. of water and divide the solution into two portions. To one portion add 2 drops of nitric acid and 1 ml. of silver nitrate T.S.: a white precipitate forms, which is insoluble in diluted nitric acid, but soluble in diluted ammonia solution *(presence of chloride).* To the second portion add 10 ml. of saturated picric acid and 2 drops of diluted sulfuric acid. Place the mixture in a refrigerator for 1 hour. Filter the mixture, wash the precipitate thoroughly with ether, and dry it at 105° for 15 min. *(Caution! May be explosive. Use safety glass shield.):* the crystals melt at 155-159°.

Purity Tests: Dissolve 0.1 gm. of succinylcholine chloride in enough water to make 25 ml. of solution, add 1 ml. of barium chloride T.S., shake, and allow the mixture to stand for 1 min.: the turbidity does not exceed that of 0.2 ml. of 0.02 *N* sulfuric acid diluted to 25 ml. and treated in the same manner *(presence of sulfate).*

Dry about 1 gm. of succinylcholine chloride, accurately weighed, in a vacuum at 105° for 5 hours: the loss in weight does not exceed 10.0%.

Char about 1 gm. of succinylcholine chloride, accurately weighed, cool the residue, add 1 ml. of sulfuric acid, heat cautiously until evolution of sulfur trioxide ceases; ignite, cool, and weigh: the residue does not exceed 0.1%.

Assay: (Succinylcholine Chloride) Transfer to a 100 ml. beaker an amount of powder equivalent to about 0.2 gm. of anhydrous succinylcholine chloride, accurately weighed, and dissolve it in 50 ml. of recently boiled and cooled water. Potentiometrically adjust the pH to 7.5 with 0.01 *N* sodium hydroxide and transfer the solution to a 300 ml. flask. Add exactly 20 ml. of 0.1 *N* sodium hydroxide, reflux for 40 min., and cool. Transfer the solution to a 250 ml. beaker and potentiometrically titrate the excess alkali with 0.1 *N* hydrochloric acid to a pH of 7.5. Run a blank titration using 50 ml. of recently boiled and cooled water. Each milliliter of 0.1 *N* sodium hydroxide consumed is equivalent to 0.01807 gm. of anhydrous succinylcholine chloride. The amount of anhydrous succinylcholine chloride is not less than 98.5 nor more than 101.5%.

(Chloride) Transfer to a 250 ml. Erlenmeyer flask about 0.3 gm. of anhydrous succinylcholine chloride, accurately weighed. Add 100 ml. of water and 1 ml. of potassium chromate T.S. Titrate with 0.05 *N* silver nitrate. Each milliliter of 0.05 *N* silver nitrate is equivalent to 0.001773 gm. of chloride and 0.009033 gm. of anhydrous succinylcholine chloride. The amount of chloride is not less than 19.2 nor more than 20.0%, equivalent to not less than 98.0 nor more than 102.0% of succinylcholine chloride.

Dosage Forms of Succinylcholine Chloride

SOLUTIONS. *Physical Properties:* The pH of the 2% and 5% solution is 3.0-4.5.

Identity Tests: The solution responds to the identity tests for the active ingredient in the monograph for succinylcholine chloride.

Assay: (Succinylcholine Chloride) Transfer to a 125 ml. separatory funnel an amount of solution, accurately measured, equivalent to about 0.2 gm. of anhydrous succinylcholine chloride. Add 40 ml. of recently boiled and cooled water, extract with five 25 ml. portions of ether, and combine the extracts in a 250 ml. separatory funnel. Wash the extracts with three 5 ml. portions of water. Discard the ether extracts and reextract the combined wash solutions with two 10 ml. portions of ether, adding the aqueous phase to the extracted aqueous solution. Proceed as directed in the assay for succinylcholine chloride in the monograph for succinylcholine chloride starting with, "Potentiometrically adjust the pH to 7.5 . . . ." Each milliliter of 0.1 *N* sodium hydroxide consumed is equivalent to 0.01807 gm. of anhydrous succinylcholine chloride. The amount of anhydrous succinylcholine chloride is not less than 92.5 nor more than 107.5% of the labeled amount calculated to the anhydrous basis.

Abbott Laboratories, North Chicago, Ill.

Solution Quelicin Chloride: 10 cc. vials. A solution containing 20 mg. of succinylcholine chloride in each cubic centimeter. Preserved with 0.18% methylparaben and 0.02% propylparaben.

Solution Quelicin Chloride: 10 cc. ampuls. A solution containing 50 mg. of succinylcholine chloride in each cubic centimeter.

Burroughs Wellcome & Company, Inc., Tuckahoe, N. Y.

Solution Anectine Chloride: 10 cc. vials. A solution containing 20 mg. of succinylcholine chloride in each cubic centimeter. Preserved with 0.1% methylparaben.

Solution Anectine Chloride: 10 cc. ampuls. A solution containing 50 mg. of succinylcholine chloride in each cubic centimeter.

p-Aminosalicylic Acid (See New and Nonofficial Remedies 1953, p. 89).

Sharp & Dohme, Division of Merck & Co., Inc., Philadelphia.

Effervescent Tablets Propasa: 1 gm. Each tablet contains 1 gm. of p-aminosalicylic acid and 0.7 gm. of sodium bicarbonate. When dissolved in water each tablet yields 1.38 gm. of sodium p-aminosalicylate.

Ascorbic Acid-U.S.P. (See New and Nonofficial Remedies 1953, p. 502).

Rexall Drug Company, Los Angeles.

Tablets Ascorbic Acid: 25 and 50 mg.

Benzethonium Chloride (See New and Nonofficial Remedies 1953, p. 81).

Chemo Puro Manufacturing Corporation, Long Island City, N. Y.

Powder Benzethonium Chloride: Bulk; for manufacturing use.

Choline Gluconate (See New and Nonofficial Remedies 1953, p. 445).

Chemo Puro Manufacturing Corporation, Long Island City, N. Y.

Solution Choline Gluconate: Bulk; for manufacturing use. A solution containing 0.58 to 0.62 gm. of choline gluconate in each cubic centimeter.

Ethinyl Estradiol (See New and Nonofficial Remedies 1953, p. 362).

Chemo Puro Manufacturing Corporation, Long Island City, N. Y.

Powder Ethinyl Estradiol: Bulk; for manufacturing use.

Ethyl Iodophenylundecylate (See New and Nonofficial Remedies 1953, p. 288).

Lafayette Pharmacal, Inc., Lafayette, Ind.

Emulsion Pantopaque, 50% V/V: 10 cc. ampuls. An emulsion containing 0.5 cc. of ethyl iodophenylundecylate in each cubic centimeter. U. S. patent 2,348,231. U. S. trademark 401,476.

Gamma Benzene Hexachloride (See New and Nonofficial Remedies 1953, p. 73).

Chemo Puro Manufacturing Corporation, Long Island City, N. Y.

Powder Gamma Benzene Hexachloride: Bulk; for manufacturing use.

Hexamethonium Chloride (See New and Nonofficial Remedies 1953, p. 241).

Chemo Puro Manufacturing Corporation, Long Island City, N. Y.

Powder Hexamethonium Chloride: Bulk; for manufacturing use.

Isoniazid (See New and Nonofficial Remedies 1953, p. 85).

Hoffmann-LaRoche Inc., Nutley, N. J.

Tablets Rimifon: 50 and 100 mg. U. S. patent 2,596,069. U. S. trademark 563,939.

Mephenesin (See New and Nonofficial Remedies 1953, p. 466).

American Pharmaceutical Company, New York.

Tablets Mephenesin: 0.25 and 0.5 gm.

Gold Leaf Pharmacal Company, Inc., New Rochelle, N. Y.

Tablets Mephenesin: 0.5 gm.

Methapyrilene Hydrochloride (See New and Nonofficial Remedies 1953, p. 9).

Chemo Puro Manufacturing Corporation, Long Island City, N. Y.

Powder Methapyrilene Hydrochloride: Bulk; for manufacturing use.

Neostigmine Bromide-U.S.P. (See New and Nonofficial Remedies 1953, p. 182).

Hoffmann-LaRoche, Inc., Nutley, N. J.

Ophthalmic Solution Prostigmin Bromide 5%: 7.5 cc. dropper bottles. A solution containing 50 mg. of neostigmine bromide in each cubic centimeter. Buffered with 1% boric acid. Preserved with 0.18% methylparaben and 0.02% propylparaben.

Neostigmine Methylsulfate-U.S.P. (See New and Nonofficial Remedies 1953, p. 182).

Lincoln Laboratories, Inc., Decatur, Ill.

Solution Neostigmine Methylsulfate 1:2000: 10 cc. vials. Preserved with 0.45% phenol.

Pentaerythritol Tetranitrate (See New and Nonofficial Remedies 1953, p. 244).

Chemo Puro Manufacturing Corporation, Long Island City, N. Y.

Powder Pentaerythritol Tetranitrate: Bulk; for manufacturing use. A mixture containing 75 mg. of pentaerythritol tetranitrate in each gram of powder.

Progesterone-U.S.P. (See New and Nonofficial Remedies 1953, p. 376).

Gold Leaf Pharmacal Company, Inc., New Rochelle, N. Y.

Solution Corlutone in Oil: 1 cc. ampuls and 10 cc. vials. A solution in sesame oil containing 10 and 25 mg. of progesterone in each cubic centimeter. The 10 cc. vials are preserved with 0.5% chlorobutanol.

Pyridoxine Hydrochloride-U.S.P. (See New and Nonofficial Remedies 1953, p. 493).

American Pharmaceutical Company, New York.

Tablets Pyridoxine Hydrochloride: 10 and 25 mg.

Pyrilamine Maleate (See New and Nonofficial Remedies 1953, p. 12).

The Columbus Pharmacal Company, Columbus, Ohio.

Tablets Pyramal Maleate: 50 mg.

Riboflavin-U.S.P. (See New and Nonofficial Remedies 1953, p. 496).

Hart Drug Corporation, Miami, Fla.

Tablets Riboflavin: 5 and 10 mg.

Sodium p-Aminosalicylate (See New and Nonofficial Remedies 1953, p. 91).

Chemo Puro Manufacturing Corporation, Long Island City, N. Y.

Powder Sodium Para-Aminosalicylate: Bulk; for manufacturing use.

Merck & Company, Inc., Rahway, N. J.

Powder Sodium Para-Aminosalicylate: 500 gm. bottles and 2.5, 11.35 and 45.4 kg. fiber drums; for manufacturing use.

Sodium Dehydrocholate (See New and Nonofficial Remedies 1953, p. 337).

Lincoln Laboratories, Inc., Decatur, Ill.

Solution Sodium Dehydrocholate: 10 cc. ampuls. A solution containing 0.2 gm. of sodium dehydrocholate in each cubic centimeter.

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CHLOROPHYLL AND DEODORIZATION

There was published in THE JOURNAL[1] an editorial entitled "Chlorophyll as a Deodorant." This precipitated considerable correspondence, some of which came from those with interests in the commercial possibilities for preparations containing chlorophyllins. Some of the correspondents questioned some of the statements made in the editorial, some referred to articles published elsewhere that they believed offered convincing evidence of the value of chlorophyll or its derivatives as a deodorant. For several years there has been accepted by the Council on Pharmacy and Chemistry of the American Medical Association a chlorophyllin-type preparation that is promoted only to the medical profession and with claims recognized by the Council. No other preparations stand accepted by the Council, and the evidence for the claimed usefulness of chlorophyll toothpastes, mouthwashes, chewing gum, tablets to be taken by mouth, and other similar concoctions seems to be wanting or at least open to dispute. As THE JOURNAL editorial pointed out, "It seems apparent that no final conclusion can be reached about the deodorizing effects of chlorophyll derivatives until the composition of the various preparations is more exactly delineated, the fate of ingested chlorophylls in the body is determined, and more objective testing has been done."

Elsewhere in this issue (page 745) is reproduced some of the correspondence received in the editorial office. This had barely been accepted by the Editor when there was published in a local newspaper (Sept. 30) an Associated Press release on a panel discussion at the annual meeting of the American Dental Association. According to the release, one of the participants in the panel said "claims that toothpastes containing chlorophyll can give a deodorizing effect for several hours should be viewed with suspicion." So far there appears to have been no official denial of such a statement by organized dentistry, and it is presumed, therefore, that the incorporation of chlorophyll derivatives in toothpastes is open to suspicion as far as claims are concerned. Other information reaching THE JOURNAL office indicates validity of THE JOURNAL'S earlier assertion that there is need for conclusive evidence before many of the claims offered for this type of preparation and others sold widely to the public can be accepted without any suspicion.

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[1] J. A. M. A. 152:1716 (Aug. 29) 1953.

SURGICAL SURVIVAL OF THE YOUNG AND THE AGED

Although operations performed on elderly patients under most circumstances are more hazardous than when done on young patients, Cole[1] points out that it is not generally realized that, if concurrent and complicating diseases are eliminated, aged patients will tolerate operative procedures of moderate magnitude almost as well as the young. Few will dispute the statement that the reserve of certain body functions and organs decreases with the passing of time. There is, for instance, reliable evidence to demonstrate that the elasticity of arteries and arterioles decreases with age; consequently, elderly persons are more susceptible to vascular shock than young persons. Similarly, arteriosclerotic changes in the vascular supply of the kidney make the elderly patient especially vulnerable to renal dysfunction, while degenerative vascular changes probably explain why older persons tolerate heat and cold so poorly. Moreover, elderly patients are more susceptible than the young to anoxia and to infections. As a result of these changes, it is to be expected that older patients will have a lower physiological reserve to combat major operations.

In order to determine the mortality rate of patients less than 60 years of age as compared to patients over 60, Cole made a survey of 3,656 major operations that were performed by members of the general surgical service at the Illinois Research Hospital from 1948 to 1952 inclusive. He limited the study to patients subjected to various types of abdominal, thoracic, vascular, plastic, urologic, breast, extremity, and neck surgery. Radical excision of the breast, thyroidectomy, and all types of herniorrhaphy were considered major operations. The majority of abdominal and thoracic procedures consisted of operations for inoperable carcinoma, with most colostomies, gastrostomies, and radical oral and neck operations performed for this disease. In addition, such procedures as pulmonary lobectomies, suprapubic and retropubic prostatectomies, enteroenterostomies, and pancreatectomy came within the scope of the survey.

Cole concluded that there is an accumulation of evidence to demonstrate that if the operative load lies within certain limits and if elderly patients are rendered free from concurrent disease, the mortality rate of the aged in major operations of slight magnitude is almost equal to that found in younger patients, provided, of course, all decrements and insufficiencies are met before operation and excellent postoperative care is instituted. Contrariwise, in the case of operations of greater magnitude, the mortality rate to be expected in the older group may be two to four times higher than in the younger group. A survey of reports appearing in the medical literature indicates that the mortality rate encountered as the result of emergency operations performed on the aged is substantially higher than in elective surgical procedures. The Illinois Research Hospital study also demonstrated that the mortality rate following radical excision of the breast, cholecystectomy, gastrectomy, herniorrhaphy, and thyroidectomy was no higher in patients over 60 years of age than in patients under 60. The mortality rate in 2,577 operations performed on patients under 60 at this institution was 2.07% as compared to 5.1% in 1,099 patients over 60 years of age.

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[1] Cole, W. H.: Operability in the Young and Aged, Ann. Surg. 138:145 (Aug.) 1953.

DIAGNOSIS OF MITRAL REGURGITATION

Estimation of the degree of mitral insufficiency in candidates for mitral commissurotomy is of considerable importance. While mild to moderate regurgitation need not significantly effect the outcome, severe regurgitation is a contraindication to the procedure.[1] With a view to evaluating criteria commonly used for diagnosing mitral regurgitation, Abelmann, Ellis, and Harken [2] have correlated the clinical findings in candidates for valvuloplasty with pathological anatomic observations made at surgery or at autopsy. Sixty-four persons in all were studied. In 62 of these some degree of mitral stenosis was found at operation. Twenty-seven were found at operation to have some degree of mitral regurgitation, which was graded according to the size and force of the regurgitant jet as felt by the surgeon's finger. One was found to have pure mitral insufficiency at operation, and in one the diagnosis of pure mitral insufficiency suspected during life was confirmed at death, which occurred before surgical correction was attempted. The following criteria were examined: the apical systolic murmur, the symptom of easy fatigability, enlargement of the left ventricle, absence of electrocardiographic pattern of right ventricular enlargement or right bundle branch block, marked enlargement of the left auricle, systolic expansion of the left auricle as assessed by fluoroscopy, the auricular esophagogram, the auricular border electrokymogram, and the phonocardiogram.

It was found that the most valid criteria for the diagnosis of marked mitral regurgitation were the presence of a loud apical systolic murmur, marked left auricular enlargement, left ventricular enlargement, and systolic expansion of the left auricle by fluoroscopy. Thus, of 14 patients with apical murmurs of grade 3 or louder, 6 showed severe regurgitation at operation, 4 showed mild to moderate regurgitation, and 4 showed no regurgitation. On the other hand, of 23 patients without systolic murmurs, there was no regurgitation in 15, it was questionable in 7, and it was moderate in 1. Again, of nine patients with marked regurgitation, six had markedly enlarged left auricles and three had moderate enlargement only. Contrariwise, of 45 patients with slight or moderate enlargement, 29 had pure stenosis, 13 had questionable to moderate regurgitation, and only 3 had marked regurgitation. Of 15 patients showing definite left ventricular enlargement by either electrocardiogram or roentgen examination, all but 2 showed mitral regurgitation; however, failure to demonstrate left ventricular enlargement does not rule out mitral regurgitation, since 8 patients with moderate to severe regurgitation did not show definite evidence of left ventricular enlargement.

In regard to systolic expansion of the left auricle as observed fluoroscopically, of 48 patients who were subjected to fluoroscopic studies, 33 showed definite expansion of the left auricle. Seven of 8 patients with marked regurgitation fell in this category while in the eighth patient expansion was questionable. However, 7 of 17 patients without demonstrable regurgitation also showed systolic expansion.

In 47 patients on whom all four of the above tests were run, it was found that any two of the four criteria were met by 5 of 7 patients with marked regurgitation, by 12 of 19 patients with mild to moderate regurgitation, by 1 of 4 patients with questionable regurgitation and by only 1 of 17 patients with pure stenosis.

In regard to the other criteria, fatigability overshadowing dyspnea was observed in nine patients, only four of whom show regurgitation to a moderate to marked degree. While it is claimed that the absence of electrocardiographic evidence and right ventricular hypertrophy in patients with mitral disease suggests the presence of both stenosis and regurgitation, Abelmann and his associates report that 15 of the 32 patients with no evidence of bundle branch block or right ventricular hypertrophy by electrocardiogram showed no evidences of mitral regurgitation at valvuloplasty while 11 showed only questionable or mild insufficiency, which indicates that such patterns are not restricted to patients with both stenosis and regurgitation. Studies with auricular esophagograms confirmed the existence of an esophageal auricular pressure pulse characteristic for mitral regurgitation but proved too sensitive a method to quantitate mitral regurgitation. In fact, the presence of this pattern in many patients in whom no regurgitant jet was felt by the surgeon tends to confirm the viewpoint that mitral stenosis is almost invariably accompanied by some degree of regurgitation. Abelmann and co-workers also found left auricular border electrokymography disappointing, patterns reportedly characteristic of mitral regurgitation being found in all patients with mitral disease and in many patients without heart disease, while phonocardiogram results appeared to be too inconstant to be of any diagnostic value.

The authors conclude from these studies that no single criterion is adequate for the preoperative diagnosis of severe mitral regurgitation in patients with mitral stenosis. They feel, however, that consideration of all clinical findings usually permits assessment of the individual patient. Thus the presence of a systolic murmur of grade 2 or less, a left auricle moderately enlarged in posterior direction only, evidence of right ventricular enlargement by roentgenogram or electrocardiogram without evidence of left ventricular enlargement, and the finding of definite but slight systolic posterior expansion of the left auricle by fluoroscopy, kymogram, or esophagogram suggest that mitral insufficiency of a degree to contraindicate cardiac surgery is not present. On the other hand, definite evidence of left ventricular enlargement, associated with other presumptive signs of regurgitation, such as a loud systolic murmur, marked left auricular enlargement with systolic expansion, and fatigability rather than dyspnea are suggestive of mitral insufficiency sufficiently advanced to render exploratory cardiotomy inadvisable.

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[1] Janton, O. H.; Glover, R. P., and O'Neill, T. J. E.: Indications for Commissurotomy in Mitral Stenosis, Am. J. Med. 12:621, 1952. Bland, E. F.: Surgery for Mitral Stenosis: A Review of Progress, Circulation 5:290, 1952. Harken, D. E., and others: Responsibility of Physician in Selection of Patients with Mitral Stenosis for Surgical Treatment, ibid. 5:349, 1952.

[2] Abelmann, W. H.; Ellis, L. B., and Harken, D. E.: Diagnosis of Mitral Regurgitation: An Evaluation of Clinical Criteria, Fluoroscopy, Phonocardiogram, Auricular Esophagogram, and Electrokymogram, Am. J. Med. 15:5, 1953.

ORGANIZATION SECTION

STATEMENT BY EDWARD J. McCORMICK ON MEDICAL RESEARCH AND PROGRESS BEFORE HOUSE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE

I am Dr. Edward J. McCormick of Toledo, Ohio, where I am engaged in the active practice of medicine. I am President and a member of the Board of Trustees of the American Medical Association. I am appearing here today as a representative of that Association to discuss our interest and activities in the field of medical research and to offer to your Committee our complete cooperation and the use of our facilities in connection with your current inquiry.

It is our understanding that this hearing has been initiated by your Committee for the purpose of studying the causes, methods of control and the extent of medical progress in connection with several specific diseases. It is apparent from the list of organizations which are scheduled to testify that complete and authentic information in this regard will be available to you. For that reason it has been decided, with the approval of Mr. John H. Teeter, Special Consultant to your Committee, not to present a separate statement with respect to each of the diseases to be covered. In addition to my statement, a representative from the Washington office of the American Medical Association will be in attendance for the entire hearing. If there are any questions which the Committee may want to direct to the Association, our representative will either supply the answer or refer the request to our headquarters in Chicago for necessary action. Finally, at the conclusion of the initial phase of the hearings we will be happy to submit a written statement or send another witness to discuss in detail any controversial issues which may arise. It is our belief that this approach will conserve the time of the Committee and prevent duplications in the presentation of basic material.

The one exception to this plan will be made tomorrow when the subject of cancer is to be discussed. In view of the extensive work of the American Medical Association in this field, I have asked Dr. Paul Wermer, the Secretary of our Committee on Research, to outline for you the activities of the Association concerning cancer diagnosis, treatment and research.

With these introductory remarks I should like to proceed to a brief statement concerning the composition, purposes and program of our Association.

The American Medical Association was founded on May 5, 1847, when 250 delegates representing more than 40 medical societies and 28 colleges, embracing medical institutions in 22 states and in the District of Columbia, met in Philadelphia, Pennsylvania. It has since grown from an organization of a few thousand to a membership of approximately 140,000, with 53 constituent state and territorial medical associations and about 2,000 component county and district medical societies.

The American Medical Association is a physician's organization existing to serve the medical profession and the general public. Since its inception it has campaigned to elevate the standards of medical education, licensure and public health; to maintain its high ethical standards; to oppose charlatanism; to promote clinical and scientific investigation, and to make available a better quality of medical service.

Although the American Medical Association acts collectively for physicians in the socio-economic field of medicine, which includes ethics, laws and legislation, medical service, economic research, rural health and health education, primary emphasis is placed on its scientific activities.

During the year 1952 over 80% of our expenditure of approximately $10,000,000 was devoted to this work. These activities are conducted largely by the Council on Medical Education and Hospitals, the Council on Scientific Assembly, the Bureau of Exhibits, the Committee on Mental Health, the Council on Pharmacy and Chemistry, Council on Physical Medicine and Rehabilitation, Council on Foods and Nutrition, Committee on Cosmetics, Committee on Research, Bureau of Investigation, and the Chemical Laboratory and Microbiologic Laboratory.

It would take considerable time for me to discuss in any detail the purposes and programs of these units of our Association. Suffice it to say that all of their work is extremely important in advancing the science of medicine. The outstanding reputation of the members of these Councils and Committees for specialized scientific knowledge and integrity is well recognized. These men serve without remuneration and render unbiased decisions based on careful considerations of all available scientific evidence and expert opinion.

Through The Journal of the American Medical Association, published weekly, and the nine monthly scientific journals, as well as several special books, the Association aids physicians in their search for new medical knowledge. These publications assist the medical profession in keeping abreast of medical developments, serve as an important means of postgraduate medical education and carry information on organization activities, as well as on government services.

In addition to such inter-Association groups, the American Medical Association has for many years engaged in a variety of cooperative undertakings with allied health agencies as well as with the state and federal governments. The operations of three such joint agencies which are currently in existence may be of interest to your Committee.

The National Research Council.—This agency was established in its present form in 1916 by the National Academy of Sciences and organized with the cooperation of the National Scientific and Technical Societies of the United States. Its purpose is to promote research in the natural sciences and in their application to medicine and other useful arts with the object of increasing knowledge, strengthening the national defense and contributing in other ways to the public welfare. To this end the Council furnishes professional and research advice to governmental and other organizations and administers such funds as may be entrusted to it.

The American Medical Association maintains liaison with the National Research Council through representation on the Division of Medical Sciences and the Food and Nutrition Board. In this capacity we are able to assist and cooperate in the effective prosecution of the Council's work.

The Commission on Chronic Illness.—This Commission was founded in 1949 as a non-profit organization by the American Medical Association, the American Hospital Association, the American Public Health Association and the American Public Welfare Association. At the present time 12 national organizations contribute financially and professionally to the program of the Commission.

Studies of the Commission include those to determine the prevalence and incidence of the major chronic diseases and how many and what services are needed; studies to determine effective means of prevention, rehabilitation and care; fact finding projects to learn what services and facilities are now available and what kinds of planning are going on.

Briefly, it can be stated that the goals of the Commission are to define the problems arising from chronic illness in all age groups; pave the way for dynamic programs to prevent chronic illness, minimize its disabling effects, restore its victims to a socially useful and economically productive place in the community; clarify the interrelationships of the many professional groups and agencies working in the field; coordinate the separate programs designed to meet more effectively the needs common to all the chronically ill; stimulate in every locality a well-rounded plan for the prevention and control of chronic disease and for the care and rehabilitation of the chronically ill; and modify society's attitude that chronic illness is hopeless.

Committee on Relations Between Medicine and Allied Health Agencies.—In June 1952 the House of Delegates of the American Medical Association authorized this Committee for the purpose of establishing better coordination and understanding between voluntary health agencies. It was also the intention of the House of Delegates to encourage the development of case finding methods, in the office of physicians, which would be more effective than the mass surveys employed by most public and private agencies.

Now, a word about medical programs in general. The advances of medical science since the beginning of the twentieth century offer convincing evidence of what can be done when competent researchers have an opportunity to work with freedom, facilities and funds. A review of the medical discoveries since the turn of the century would require volumes. Drugs and operations, for example, alone could provide endless material for discussion of the onward march of medical research. Insulin, vitamins, sulfonamides, penicillin and other antibiotics are only a few of the outstanding discoveries in the drug field. Isotopes and betatrons have become part of the medical language. Even entirely new approaches to illness have been discovered, as a result of which, the full possibilities of formerly practically unknown subjects such as physical medicine and rehabilitation are being explored with a thoroughness that offers much promise for the future. Truly, the past fifty years have been remarkable for those who devote their lives to the prevention of illness and the treatment of the sick.

The decline in the general mortality rate from 17.2 deaths per 1,000 population in 1900 to only 9.6 in 1950 underscores the health progress during this period. While the population has doubled, the number of persons over 65 years of age has quadrupled in this period and a significant gain in life expectancy, even in late middle age, has resulted from the mortality reduction. Life expectancy at birth in 1900 was estimated at 47.3 years; in 1949 it was 67.6 years.

Major mortality gains have resulted from preventive medicine and the development of specific cures. Preventive medicine has been successful in eliminating, in a large measure, the spread of disease. Medical research has developed many effective methods of immunization and disease prevention; these have been widely used by public health agencies and sanitary engineers under the capable guidance and direction of the medical profession.

In conclusion, I should like to say that the American Medical Association will continue to support all programs for the good of the health of the public, as we have done over the years. We shall fight, however, with all of our strength, matters that are not in the public interest. Our Association has, throughout its history, been a champion of sound progress in medicine. It has had to fight many battles against quackery, improper governmental interference and against slipshod medical training and practice. We have found that an organization cannot be strong and fearless in defending its principles without creating bitter enemies and staunch supporters. We have both today.

This concludes my formal statement. I want to thank the Committee for allowing our Association an opportunity to participate in these important hearings. I shall be happy to answer to the best of my ability any questions which members of the Committee may have.

STATEMENT BY PAUL WERMER ON CANCER DIAGNOSIS, TREATMENT, AND RESEARCH BEFORE HOUSE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE

I am Dr. Paul Wermer of Chicago, Illinois. For six years I was a practicing physician in New York City. Thereafter I served for five years in the United States Public Health Service, after which I spent four years in clinical research work in the pharmaceutical industry. Since 1949 I have been the Secretary of the Committee on Research of the Council on Pharmacy and Chemistry of the American Medical Association. I am appearing here today as a representative of that Association to outline our activities in the field of cancer diagnosis, treatment and research.

As Dr. Edward J. McCormick indicated in his statement yesterday, the American Medical Association includes in its membership physicians from all walks of professional life and is interested and engaged in a variety of activities. Thus, cancer, while absorbing, does not represent the Association's sole interest in the fight against diseases and death. In line with the schedule of the Committee, I will limit my remarks today to the field of cancer. I will also attempt to avoid repeating information dealing with the description of the disease, its causes and general research data which has been covered by other witnesses.

I should like however, to emphasize our realization of the extreme seriousness of this particular disease. Obviously, a malady which is in second place among the causes of death is a matter of pressing concern not only to organized medicine but to every member of the profession. To each physician, whether family advisor or specialist, every death resulting from cancer is a defeat for scientific medicine. Thus, all of us are vitally interested in ascertaining the solution to this problem. We believe that this answer must be found by further education and research. In this manner we hope to determine the causes, the earliest method of diagnosis, the best treatments and the best methods for early determination of a patient's response to treatment.

In the field of cancer diagnosis, treatement and research, the American Medical Association plays a prominent professional educational role. The Journal of the American Medical Association is prepared and distributed weekly to close to 150,000 practicing physicians. During the year ending Sept. 26, 1953, THE JOURNAL published 21 articles and clinical notes, 156 abstracts of articles appearing in domestic and foreign medical journals, and answered a number of inquiries from domestic and foreign correspondents on the subject of cancer. In addition, THE JOURNAL has commented editorially on cancer in six of the 52 issues represented in this survey.

In addition, the Association publishes nine special journals monthly, each of which has carried several articles on cancer in the special areas of interest.

At the Annual Meeting of the American Medical Association in New York City this past June, there were 31 scientific papers and 25 scientific exhibits on cancer. In addition, there were two nation-wide television programs and five motion pictures shown to the visiting physicians dealing with this disease. The meeting was visited by approximately 18,000 practicing physicians and over 5,000 students, interns and technicians.

By these educational devices (our publications and our meetings) the American Medical Association brings to the readers of its journals and to its membership, the latest advances in acceptable methods of therapy and diagnosis. Editorially, we repeatedly emphasize to our members the need to be constantly alert to the possibility of the existence of cancer in their patients regardless of age, and the necessity for the earliest possible diagnosis of malignancy. It is axiomatic that the earlier the diagnosis the more effective are our means of combating cancer with surgery, x-ray and radium. To this end, in 1952 a series of six articles was sponsored by our Committee on Research. These articles were solicited from leading cancer specialists and were designed to encourage the application of some of the latest methods for early cancer diagnosis in office practice.

At this junction I would like to note that so far I have been outlining solely the accomplishments of the American Medical Association in this professional educational field. By no means do I wish to imply that we are alone in carrying out this task. On the contrary, we are ably joined by the local and state medical societies which make significant contributions in this regard. The state and local medical societies in their publications and regular meetings include many discussions, articles, and papers on cancer. Each hospital's medical staff holds conferences and meetings on cancer and other medical problems.

Outside of our Association and affiliated groups, the American Cancer Society and its subsidiary state and local societies, as well as the National Cancer Institute, the Damon Runyan Foundation and special societies of both lay and professional people too numerous to mention join in this task.

The Association has been equally interested in the field of cancer research. For the past six years we have supported, with the cooperation of representatives of the drug industry, a far reaching survey of the effects of certain sex gland hormones and allied substances upon the course of various forms of cancer. We became interested in this program because it offered promise of a method of treatment, within the skill of most physicians, which would permit office or home care for the long-term cases of inoperable cancer of the breast, prostate gland and possibly other organs.

In 1946 when this program was inaugurated only a few breast cancer cases, treated with these endocrine substances, had been reported upon. It was imperative to learn as quickly as possible the efficacy of these agents, the best dosages and possible hazards in this therapy. It was obvious that no one physician or clinic could see enough cases in a relatively short period of time to accurately assess the problems outlined. It was equally obvious that if the benefits of this treatment were to devolve to patients suffering from cancer as quickly as possible, it was necessary to organize a cooperative study involving many clinics and investigators.

The Subcommittee on Steroids and Hormones of the Committee on Research undertook the organization and conduct of such a study. It is not my intention to comment on the mass of data which has been accumulated; however, certain pertinent facts concerning this study deserve mention. In all, 45 clinics and 65 investigators joined in the task. They deserve the majority of the credit for the results achieved. The pharmaceutical industry has also been extremely cooperative in supplying large quantities of expensive and, in some instances, rare substances for distribution through the Committee to investigators without charge. The American Medical Association bore all of the administrative costs plus the costs for biennial meetings including travel of all investigators.

This subcommittee was faced with problems of standardizing as far as possible the selection of proper patients for treatment in the various clinics. From their own experience, the members devised varying dosage schedules and designated the clinics which would use them. The investigators were furnished with standard forms so that their reports would be as uniform as possible. These reports were filed quarterly and the data was analyzed by the office staff of the Committee on Research in Chicago. Thus, in a relatively short time the medical profession was in possession of definite criteria for the selection of patients for this form of treatment plus definite dosage schedules which met the needs of the majority of their patients. In this way the dangers inherent in the therapy were also discovered in advance. This was accomplished by seven Committee publications in The Journal of the American Medical Association and approximately 100 individual publications.

It may be of interest to the Committee to know that over 2,000 inoperable breast cancer cases have been registered and treated. At the present moment an analysis of the total data accumulated is in progress with a view to the publication of the results as a series of monographs. Currently substances are being tested in the hope of finding more effective compounds with fewer side-effects. The studies themselves have been widened to include cancer of the female and male sex organs, the urinary bladder, the thyroid gland, and certain bone tumors. We should like to emphasize that each of our investigators is still a free agent. They are not bound rigidly to our organization. Each is free to conduct other research projects for other agencies even upon the forms of cancer in which we are primarily interested. All we ask of the collaborating investigators is that they report their results to our central office. These results are then disseminated among other investigators by means of bulletins and letters. Thus, it may be seen that the primary efforts of the American Medical Association as well as those of many other medical societies is towards the expeditious exchange of scientific and objective medical information.

The road to the solution of the cancer riddle is not an easy one since we know little about the actual cause or causes of this group of diseases. It is also unfortunate that all the problems in regard to cancer are not on the positive side, that is, imposed by the disease. There is instead a venal, negative side, with problems which are man made, created by those who seek commercial gains by foisting false hopes and cures on the cancer patient and his family. For over half a century the American Medical Association has shown bold leadership in opposing these forces. During this time we have maintained an agency for the collection and dissemination of information on nostrums and quackery. We feel this task to be a public duty in order to protect the laity and to furnish physicians with objective evidence as to the lack of value and the identity of the secret nostrums proposed as cures.

In this endeavor the Association, through its Bureau of Investigation, has cooperated closely with the various federal and state agencies charged with the enforcement of laws regulating the drug industry. We have also cooperated with the state agencies which have jurisdiction over the licensing of individuals who seek to follow either the practice of medicine or the other healing arts.

In turning the searchlight of truth upon these cancer quacks we have frequently become the defendant in a court of law. Thus, the Association has been obliged to spend large sums of money in the defense of such legal actions. It is significant, however, to note that although we have been sued for more than 40 million dollars over the years, we have been obliged to pay but one judgment and that, in the nominal sum of one penny.

This is a constant battle in which we have chosen to remain in the forefront. Even now several nostrums are being promoted to the public either on representation that cures are obtainable or that the proponents are experimenting clinically with something new and valuable in the management of cancer patients, particularly those beyond the conventional methods of treatment used by medicine.

In our efforts to educate and expose, we have been joined by the American Cancer Society, the National Cancer Institute, the Damon Runyan Foundation and the Food and Drug Administration in sponsoring the National Research Council's Committee on Cancer Diagnosis and Therapy. Inasmuch as the work of this Committee will be described in detail by other witnesses, suffice it to say that it gives the nation a sound method of evaluating proposed cancer cures and diagnostic aids. It is the intention of our Association to encourage and further every honest attempt to increase our knowledge about cancer, to continue our earnest efforts in the quick dissemination of such knowledge to our physician members and to foster the type of cooperative research program previously outlined.

This concludes my formal statement. I want to thank the Committee for allowing our Association an opportunity to testify on this most important subject. I shall be happy to answer to the best of my ability any questions which members of the Committee may have.

NEW A. M. A. PUBLICATIONS

A revised catalog of medical and health films is now available. The Committee on Medical Motion Pictures has also published an index of all motion picture reviews published in THE JOURNAL from September, 1946, to December, 1952. Both booklets are available on request from the Committee on Medical Motion Pictures, American Medical Association, 535 North Dearborn Street, Chicago 10, Ill.

An attractive new pamphlet entitled "It's Your AMA" describes the many services that the American Medical Association performs for its members, for medical societies, and for the public. The brief illustrated pamphlet will be mailed to all A. M. A. members after Oct. 15 and in the future will be supplied to each new Association member. The pamphlet contains, for example, information on A. M. A. activities in the field of medical education, medical economics, evaluation of foods, drugs, cosmetics, and medical devices, legislation, health education, and postgraduate education. How the A. M. A. helps state and county medical societies by providing films, exhibits, recordings, and pamphlets, and information on any subject in the medical realm is described. Also stressed is the role of each individual physician in the work of the Association, pointing up the need for an active, informed membership, financial support, and loyalty.

JOINT MEETING ON RURAL HEALTH

Cooperation at the grass roots level between agricultural, medical, civic, and lay groups is necessary in order to obtain a still better understanding of rural health problems and to help solve them. This conclusion was reached during a recent joint meeting of the Advisory Committee, made up of members of various farm and agricultural organizations, and the Council on Rural Health. The chairman of the Council, Dr. F. S. Crockett, Lafayette, Ind., told the group: "The volume of rural health work in the country that has been done cannot be measured. We do not know the exact contributions that our Council has made, but we all feel that we have been traveling in the right direction. There have been phases that we have not emphasized sufficiently, but we have agreed that in the future each organization and this group collectively can do more in this activity to meet the needs of farm people. The major portion of our job is educational. It will require time and patience on the part of all groups involved. It only can be accomplished by cooperation at all levels, especially at the grass roots level."

The need for more physician participation at state and county levels was emphasized at the meeting. It was suggested that lay members talk with physicians to help interest them and that members of the Council devise ways and means through state and county medical societies of interesting physicians serving persons in rural areas. The importance of selecting members for the state and county rural health committees who have an understanding of and an interest in rural health was accentuated.

The advisory committee felt that national conferences have been most helpful in obtaining a further understanding of rural health needs but that there still is a problem of getting information to persons in rural areas. Advisory members were charged with the responsibility of making contacts within their associations to provide for closer cooperation between their groups and the members of the Council on Rural Health. It was suggested that county medical societies invite lay groups to meet with them in an effort to provide a better understanding of rural health problems.

The value of rural newspapers and farm journals as channels through which health information can reach more persons was emphasized at the meeting. More direct attention by the American Medical Association to informative news releases in lay language and the possibility of the regular distribution to rural newspapers and farm journals of lay-language articles on rural health problems by physicians were discussed. It was agreed that there is a need for greater understanding and use of prepaid medical and hospital insurance by rural populations. Each organization needs to develop a program to inform its membership of the availability and provisions of prepaid insurance. Directors of agricultural extension services and leaders of farm organizations can best be informed of organized medicine's interest in rural health problems, it was brought out, through organized medicine's participation in the meetings of these groups and through periodic contacts with these organizations.

Those who participated in the meeting were in accord that there was still a great need of the principles of "counciling together," although formal organization of "Health Councils" should be a secondary thought. It was suggested that a few interested groups get together informally to discuss rural health problems and, as the discussion groups progressed, additional organizations should be invited to join.

The advisory members present at the meeting were Mrs. Charles W. Sewell, Otterbein, Ind., member-at-large; Mrs. Charles DeShazo, Paul's Cross Roads, Va., Associated Women of the American Farm Bureau Federation; Mrs. J. Laning Taylor, Washington, D. C., National Milk Producers Federation; Miss Gertrude Humphreys, Morgantown, W. Va., agricultural extension services; Mr. Paul C. Johnson, Chicago, *Prairie Farmer* magazine; Mr. L. R. Neel, Nashville, Tenn., *Southern Agriculturist-Farm and Ranch* magazine; Mr. H. E. Slusher and Mr. Chester Starr, Jefferson City, Mo., Missouri Farm Bureau Federation; and Mr. Frank W. Peck, Chicago, the Farm Foundation.

THE OATH OF HIPPOCRATES

The Oath of Hippocrates is reproduced on this page in response to many requests.—Ed.

I swear by Apollo, the physician, and Aesculapius, and Health, and All-heal, and all the gods and goddesses, that, according to my ability and judgment, I will keep this oath and stipulation: to reckon him who taught me this art equally dear to me as my parents, to share my substance with him and relieve his necessities if required; to regard his offspring as on the same footing with my own brothers, and to teach them this art if they should wish to learn it, without fee or stipulation, and that by precept, lecture and every other mode of instruction, I will impart a knowledge of the art to my own sons and to those of my teachers, and to disciples bound by a stipulation and oath, according to the law of medicine, but to none others.

I will follow that method of treatment which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to anyone if asked, nor suggest any such counsel; furthermore, I will not give to a woman an instrument to produce abortion.

With purity and with holiness I will pass my life and practice my art. I will not cut a person who is suffering with a stone, but will leave this to be done by practitioners of this work. Into whatever houses I enter I will go into them for the benefit of the sick and will abstain from every voluntary art of mischief and corruption; and further from the seduction of females or males, bond or free.

Whatever, in connection with my professional practice, or not in connection with it, I may see or hear in the lives of men which ought not to be spoken abroad, I will not divulge, as reckoning that all such should be kept secret.

While I continue to keep this oath unviolated, may it be granted to me to enjoy life and the practice of the art, respected by all men at all times, but should I trespass and violate this oath, may the reverse be my lot.

ANNUAL CONFERENCE OF WOMAN'S AUXILIARY

The 10th annual conference of state presidents, presidents-elect, and national chairmen of the Woman's Auxiliary to the American Medical Association will be held at the Hotel LaSalle, Chicago, Nov. 18-20. The program comprises panel discussions on legislation, civil defense, organization, mental health, rural health, nurse recruitment, and the American Medical Education Foundation. The luncheon speakers will be Dr. Edward J. McCormick, President of the A. M. A., and Dr. Franklin D. Murphy, chancellor of the University of Kansas. The Friday program will be given at the A. M. A. headquarters, where several educational films will be presented. A tour of the headquarters building will follow luncheon there. Wednesday evening there will be a dutch treat dinner at the Edgewater Beach Hotel on the north side of the city.

DR. ELMER LEE HENDERSON

The following letter was recently received by Dr. Edward J. McCormick, President of the American Medical Association.

"The Board of Trustees, meeting at the 55th Annual Convention of the American Hospital Association in San Francisco, recognized the great loss to both the American Medical Association and the American Hospital Association in the death recently of that great leader in medical circles, Dr. Elmer Henderson.

"The Board of Trustees of the Association appreciated Dr. Henderson's efforts on behalf of hospitals. His passing is a great loss to all health agencies of this country."

appointed full time director of medical education by Beth-El Hospital, Brooklyn. Dr. Snapper came to Chicago about a year ago from New York, where he had served as clinical professor of medicine at Columbia University College of Physicians and Surgeons and as director of medical education at Mount Sinai Hospital.

Dr. Fulton to Deliver Ranson Lecture.—On Oct. 30, 4 p. m., Theta chapter of Phi Beta Pi, Northwestern University Medical School, will present the 24th annual Stephen Walter Ranson lectureship. Dr. John F. Fulton, Sterling Professor of the History of Medicine, Yale University School of Medicine, New Haven, Conn., will discuss "Contemporary Concepts of the Hypothalamus and Their Origin" at Thorne Hall, Superior St. and Lake Shore Dr. The lecture is open to physicians, students, and other interested persons.

KANSAS

Dr. William Menninger Honored.—The Alumni Association of Cornell University Medical College recently bestowed the award of distinction on Dr. William C. Menninger, Topeka, professor of psychiatry, University of Kansas School of Medicine, Kansas City, and general secretary, the Menninger Foundation, "in recognition of his notable achievements in the teaching and practice of psychiatry, whose life and work have brought honor and acclaim to his medical college." Dr. Menninger in World War II was director of the neuropsychiatry consultants' division, Surgeon General's Office. He received the Distinguished Service medal and Army Commendation ribbon, and is a Chevalier of the French Legion of Honor.

Course on Orthopedics and Physical Medicine.—Physical medicine in its practical application to orthopedic practice will be presented in the refresher course, "Orthopedics, Physical Medicine, and Rehabilitation," Oct. 26-28, at the University of Kansas Medical Center, Kansas City. The course is a part of the postgraduate medical study sponsored by the University of Kansas in cooperation with the Kansas Medical Society and the Kansas State Board of Health. Round-table discussions by guest instructors and the staff will be held at the close of each day's program: Monday, "Fractures"; Tuesday, "Amputation and Prostheses," "Backache"; and Wednesday, "Arthritis." Guest instructors include Drs. Alexander P. Aitken, Boston; James L. Beaver, Wichita; Walter P. Blount, Milwaukee; Miland E. Knapp, Minneapolis; Jesse T. Nicholson, Philadelphia; and William D. Paul, Iowa City.

LOUISIANA

University News.—At Tulane University of Louisiana School of Medicine, New Orleans, members of the freshman class recently presented a portrait of Harold Cummins, Ph.D., assistant dean and professor of anatomy, to the university. Members of the staff of the department of obstetrics and gynecology, both past and present, gave a portrait of their chief, Dr. Conrad G. Collins.——When the Nebraska State Medical Society held its "Tulane University Day," Dr. Isadore Dyer, professor of obstetrics, Tulane University of Louisiana School of Medicine, New Orleans, spoke on "Obstetric Aspects of Prematurity—Prevention and Management," Dr. Conrad G. Collins, professor of gynecology on "Ectopic Pregnancy," and Dr. H. Reichard Kahle, associate professor of surgery, on "Intussusception: Diagnostic and Therapeutic Considerations."

Personal.—Dr. Leon J. Menville, emeritus professor of radiology, Tulane University of Louisiana School of Medicine, New Orleans, was recently made an honorary member by the Radiological Society of North America. During the 38 years of its existence, the society has conferred this honor on only eight persons.——Dr. William A. Sodeman, professor of preventive tropical and semitropical diseases and hygiene, Tulane University of Louisiana School of Medicine, has been appointed chairman of the department of medicine at the University of Missouri School of Medicine, Columbia.——Dr. Harold J. Jacobs, formerly clinical instructor of internal medicine, Louisiana State University School of Medicine, New Orleans, has been appointed director of the cardiac and pulmonary laboratories and also director of medical education at De Paul Hospital, Norfolk, Va.

MAINE

Venereal Disease Clinics.—The state department of health and welfare, bureau of health, maintains facilities for the diagnosis and treatment of venereal diseases in the following locations: Augusta, Bangor, Bath, Belfast, Biddeford, Lewiston, Portland, Rockland, Rumford, Sanford, Waterville, Wilton, and Winthrop. Any physician wishing to refer an indigent person for diagnosis or treatment may obtain the name of the nearest clinic physician by contacting the department at the state house in Augusta. If no clinic facilities are available, physicians will be authorized to treat indigent patients in their offices. Authorization should be requested before treatment is started.

Clinical Session of State Association.—The fall clinical session of the Maine Medical Association will have its headquarters at Bangor House, 174 Main St., Oct. 25-26. Sunday, 6:30 p. m., Dr. Sara M. Jordan, chief of the gastroenterology section, Lahey Clinic, Boston, will address the dinner meeting for physicians and wives. Her subject will be "Digestion, Diet, and Doctors." The clinical program will be presented Monday at the Eastern Maine General Hospital, Bangor. Dr. Jordan will serve as guest moderator for the morning program, which includes orthopedic cases, gastric bleeding, intestinal polyps, regional ileitis, and fluid and electrolytes in surgery. Dr. Edward B. D. Neuhauser, roentgenologist, Infants' Hospital, Boston, will comment on the afternoon topics: selection of cases for cardiac surgery, infantile cortical hyperostosis, selected orthopedic cases from children and young adults, and mediastinal tumors. Dr. Neuhauser will discuss "Pediatric Roentgenology in General Practice" at the dinner Monday, 6:30 p. m.

MASSACHUSETTS

Personal.— The fourth annual Joseph L. Baer lecture, "Carcinoma in Situ of Cervix: Further Studies on Its Relationship to Cervical Carcinoma," was delivered before the Chicago Gynecological Society, Oct. 16, by Dr. Arthur T. Hertig, head of the department of pathology, Harvard Medical School, Boston.

New England Center Lectures.—The House Officers' Association, New England Center Hospital, is holding an evening lecture series. On Oct. 28, 7 p. m., Dr. Graham M. Bull, professor of medicine, Queen's University of Belfast, Belfast, North Ireland, will present "Postural Proteinuria" in the Stearns Auditorium, New England Center Hospital, Harrison Ave. and Bennet St., Boston. Discussors will be Drs. Alexander Leaf and Joseph M. Hayman Jr., Boston.

MICHIGAN

Beaumont Memorial.—The cornerstone for the Beaumont Memorial on the site in Mackinac Island where the Michigan State Medical Society is restoring the trading store of the American Fur Company, was laid on July 17 (see The Journal, May 3, 1952, p. 70; March 28, 1953, p. 117). Dr. Reader J. Hubbell, Kalamazoo, president, Michigan State Medical Society, the Hon. W. F. Doyle, Mackinac Island State Park Commission, and Dr. Otto O. Beck, Birmingham, chairman, Beaumont Memorial Fund, officiated at the cornerstone laying. Participating in the ceremony were Dr. William S. Jones, Menominee; Dr. Albert H. Miller, Gladstone; Dr. William Bromme, Detroit; Dr. Alfred H. Whittaker, Detroit; the Hon. G. Mennen Williams, governor of Michigan; the Hon. Leslie O'Brien, mayor of Mackinac Island; and the Rev. Thomas W. Murphy, Detroit. The ceremony commemorated the historical episode on June 19, 1822, when Dr. William Beaumont began the treatment of Alexis St. Martin for a gaping gunshot wound in the stomach and, through his observations on the gastric fistula became the first to study the process of digestion in life.

MEDICAL NEWS

CALIFORNIA

Symposium on Immunity.—Stanford University School of Medicine, San Francisco, will present a symposium on immunity and hypersensitivity, Oct. 30-31, under the sponsorship of the M and R Laboratories, Columbus, Ohio. There will be no registration fee. All meetings will be held in Lane Hall, 2398 Sacramento St., in the Medical School Building.

General Practitioners Meet in Coronado.—The California Academy of General Practice will hold its annual scientific assembly at the Hotel del Coronado in Coronado, Oct. 25-27. Among the out-of-state speakers are Dr. Louis A. Buie, Rochester, Minn., Dr. Raymond W. McNealy, Chicago, Dr. Frederic H. Bentley, former professor of surgery, University of Durham, England, and now lecturer in surgery, Sommer Memorial Trust, Portland, Ore., and Alfred C. Kinsey, Sc.D., Bloomington, Ind. The meeting is open to all members of the academy and to any nonmember physician on payment of a $5 registration fee. Information may be obtained from the California Academy of General Practice, Suite 900, 461 Market St., San Francisco 5.

Symposium on Heart Disease.—The San Francisco Heart Association will hold its annual symposium on heart disease at the St. Francis Hotel, San Francisco, Oct. 28-30. Dr. David A. Rytand, San Francisco, will moderate an electrocardiographic pathological conference Wednesday, 9-10:30 a. m. The Wednesday afternoon session will open with a panel discussion, "Therapy of Rheumatic Diseases," at which Dr. Lowell A. Rantz, San Francisco, will serve as moderator. It will close with a panel discussion, "Cardiac Involvement in Noncardiac Pediatric Conditions," moderated by Dr. Henry D. Brainerd, San Francisco. Dr. Alfred F. Goggio, Berkeley, will be moderator for the panel discussion, "Present Status of Modern Cardiac Surgery," Thursday morning, and Dr. Robert L. Smith Jr., San Francisco, for the panel discussion "Chronic Coronary Disease" Thursday, 3:45-5 p. m. "Cardiac Drugs" is the title of the panel discussion Friday, 11:15 a/m., for which Dr. Eliaser will serve as moderator. Friday afternoon will be devoted to a clinical session in the Nurses' Auditorium, Mount Zion Hospital, with Dr. Arthur L. Bloomfield presiding. Guest speakers and their first presentations include:

Robert H. Bayley, Oklahoma City, Possible Clinical Applications of Vectorcardiography.
Howard B. Sprague, Boston, Uses and Limitations of Ballistocardiography.
Ann G. Kuttner, New York (participant in panel on rheumatic diseases).
Howard B. Burchell, Rochester, Minn., New Techniques in Diagnosis of Congenital Heart Disease with Particular Regard to Dye Dilution Curves.
Herrman L. Blumgart, Boston, Pathology and Clinical Classification of Cardiac Pain.
Robert L. King, Seattle, Greetings from the President of the American Heart Association.
Eugene A. Stead Jr., Durham, N. C., Present Views in Circulatory Failure.

COLORADO

Dr. Joslin to Deliver Harvard Lecture.—The sixth annual Harvard lecture will be delivered by Dr. Elliott P. Joslin, Boston, in the Sabin Auditorium, University of Colorado Medical Center, Denver, Oct. 30, 5 p. m. His lecture, "Diabetes, Today and Tomorrow," is given under the auspices of the Rocky Mountain Harvard Medical Alumni Association.

Course on Fractures and Joint Injuries.—The orthopedic division, University of Colorado School of Medicine, Denver, will present this course Nov. 19-21, with Dr. Edwin F. Cave, associate professor of orthopedics, Harvard Medical School, Boston, as guest lecturer. The course is designed to present to general practitioners the most practical methods of treatment of fractures and dislocations and other traumatic conditions. Sessions will be held at Colorado General Hospital, Denver General Hospital, Fitzsimons Army Hospital, and Childrens Hospital, all in Denver. For information, apply to the Office of Graduate and Postgraduate Medical Education, University of Colorado School of Medicine, 4200 E. Ninth Ave., Denver 20.

DISTRICT OF COLUMBIA

Personal.—The Washington Heart Association has awarded its first clinical fellowship in cardiology to Dr. James J. Leonard.——The Ohio University Alumni Association has awarded a certificate of merit to Dr. James Alexander Lyon, Washington, D. C., "in recognition of distinguished attainments in the fields of internal medicine and cardiovascular diseases which reflect credit on his alma mater and are viewed with satisfaction by the Alumni Association."

University Receives Carrel Manuscript Collection.—The collection of manuscripts, comprising 60 cases of papers, amassed by the late Dr. Alexis Carrel has been donated to the Georgetown University Medical Center, Washington, D. C., by the surgeon's widow. Dr. Carrel, author of "Man, the Unknown," who collaborated with Charles A. Lindbergh on experiments in which tissues of a chicken heart were kept alive for several years in a mechanism constructed by the latter, was associated with the Rockefeller Institute for Medical Research from 1906 to 1939 and was member emeritus of the institute from 1939 until his death. Dr. Carrel was awarded the Nobel Prize in 1912 for his work in suturing blood vessels and the transplantation of organs.

ILLINOIS

Grants for Cerebral Palsy Research.—The United Cerebral Palsy Association has awarded three grants to the University of Illinois: (1) $19,313 for research in cerebral palsy with emphasis on disability evaluation and the application of physiological techniques for the facilitation of motor learning (under the direction of Dr. Frances A. Hellebrandt, department of physical medicine and rehabilitation); (2) $10,000 for investigation of the neuropharmacological aspects of cerebral palsy (conducted by Dr. Klaus R. Unna, department of pharmacology); and (3) $3,600 for a study of the treatment, designed to provide basic instruction in the clinical administration of cerebral palsy cases (under the direction of Beatrice D. Wade, O. T. R., department of occupational therapy).

Chicago

DeLee Lecture.—The Solomon Theron DeLee lecture, "Carbohydrates, Growth, and Pregnancy," will be given by Dr. Arthur St. George Huggett, professor of physiology, University of London, St. Mary's Hospital Medical School, at Chicago Lying-in Hospital, University of Chicago, 5841 Maryland Ave., Oct. 26, at 8:30 p. m.

Society News.—The Chicago Society of Industrial Medicine and Surgery will hold its fall scientific meeting at 8:30 p. m., Oct. 26, at the Palmer House (tel. RAndolph 6-7500). "The Emergency Care of Head Injuries" will be discussed by Dr. Harold C. Voris, clinical professor of surgery, neurosurgery division, Stritch School of Medicine of Loyola University. All persons of allied medical groups are cordially invited.

Dr. Snapper Returns to New York.—Dr. Isidore Snapper, director of medical education at Cook County Hospital and professor of medicine, Chicago Medical School, has been

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Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education and public health. Programs should be received at least three weeks before the date of meeting.

appointed full time director of medical education by Beth-El Hospital, Brooklyn. Dr. Snapper came to Chicago about a year ago from New York, where he had served as clinical professor of medicine at Columbia University College of Physicians and Surgeons and as director of medical education at Mount Sinai Hospital.

Dr. Fulton to Deliver Ranson Lecture.—On Oct. 30, 4 p. m., Theta chapter of Phi Beta Pi, Northwestern University Medical School, will present the 24th annual Stephen Walter Ranson lectureship. Dr. John F. Fulton, Sterling Professor of the History of Medicine, Yale University School of Medicine, New Haven, Conn., will discuss "Contemporary Concepts of the Hypothalamus and Their Origin" at Thorne Hall, Superior St. and Lake Shore Dr. The lecture is open to physicians, students, and other interested persons.

KANSAS

Dr. William Menninger Honored.—The Alumni Association of Cornell University Medical College recently bestowed the award of distinction on Dr. William C. Menninger, Topeka, professor of psychiatry, University of Kansas School of Medicine, Kansas City, and general secretary, the Menninger Foundation, "in recognition of his notable achievements in the teaching and practice of psychiatry, whose life and work have brought honor and acclaim to his medical college." Dr. Menninger in World War II was director of the neuropsychiatry consultants' division, Surgeon General's Office. He received the Distinguished Service medal and Army Commendation ribbon, and is a Chevalier of the French Legion of Honor.

Course on Orthopedics and Physical Medicine.—Physical medicine in its practical application to orthopedic practice will be presented in the refresher course, "Orthopedics, Physical Medicine, and Rehabilitation," Oct. 26-28, at the University of Kansas Medical Center, Kansas City. The course is a part of the postgraduate medical study sponsored by the University of Kansas in cooperation with the Kansas Medical Society and the Kansas State Board of Health. Round-table discussions by guest instructors and the staff will be held at the close of each day's program: Monday, "Fractures"; Tuesday, "Amputation and Prostheses," "Backache"; and Wednesday, "Arthritis." Guest instructors include Drs. Alexander P. Aitken, Boston; James L. Beaver, Wichita; Walter P. Blount, Milwaukee; Miland E. Knapp, Minneapolis; Jesse T. Nicholson, Philadelphia; and William D. Paul, Iowa City.

LOUISIANA

University News.—At Tulane University of Louisiana School of Medicine, New Orleans, members of the freshman class recently presented a portrait of Harold Cummins, Ph.D., assistant dean and professor of anatomy, to the university. Members of the staff of the department of obstetrics and gynecology, both past and present, gave a portrait of their chief, Dr. Conrad G. Collins.——When the Nebraska State Medical Society held its "Tulane University Day," Dr. Isadore Dyer, professor of obstetrics, Tulane University of Louisiana School of Medicine, New Orleans, spoke on "Obstetric Aspects of Prematurity—Prevention and Management," Dr. Conrad G. Collins, professor of gynecology on "Ectopic Pregnancy," and Dr. H. Reichard Kahle, associate professor of surgery, on "Intussusception: Diagnostic and Therapeutic Considerations."

Personal.—Dr. Leon J. Menville, emeritus professor of radiology, Tulane University of Louisiana School of Medicine, New Orleans, was recently made an honorary member by the Radiological Society of North America. During the 38 years of its existence, the society has conferred this honor on only eight persons.——Dr. William A. Sodeman, professor of preventive tropical and semitropical diseases and hygiene, Tulane University of Louisiana School of Medicine, has been appointed chairman of the department of medicine at the University of Missouri School of Medicine, Columbia.——Dr. Harold J. Jacobs, formerly clinical instructor of internal medicine, Louisiana State University School of Medicine, New Orleans, has been appointed director of the cardiac and pulmonary laboratories and also director of medical education at De Paul Hospital, Norfolk, Va.

MAINE

Venereal Disease Clinics.—The state department of health and welfare, bureau of health, maintains facilities for the diagnosis and treatment of venereal diseases in the following locations: Augusta, Bangor, Bath, Belfast, Biddeford, Lewiston, Portland, Rockland, Rumford, Sanford, Waterville, Wilton, and Winthrop. Any physician wishing to refer an indigent person for diagnosis or treatment may obtain the name of the nearest clinic physician by contacting the department at the state house in Augusta. If no clinic facilities are available, physicians will be authorized to treat indigent patients in their offices. Authorization should be requested before treatment is started.

Clinical Session of State Association.—The fall clinical session of the Maine Medical Association will have its headquarters at Bangor House, 174 Main St., Oct. 25-26. Sunday, 6:30 p. m., Dr. Sara M. Jordan, chief of the gastroenterology section, Lahey Clinic, Boston, will address the dinner meeting for physicians and wives. Her subject will be "Digestion, Diet, and Doctors." The clinical program will be presented Monday at the Eastern Maine General Hospital, Bangor. Dr. Jordan will serve as guest moderator for the morning program, which includes orthopedic cases, gastric bleeding, intestinal polyps, regional ileitis, and fluid and electrolytes in surgery. Dr. Edward B. D. Neuhauser, roentgenologist, Infants' Hospital, Boston, will comment on the afternoon topics: selection of cases for cardiac surgery, infantile cortical hyperostosis, selected orthopedic cases from children and young adults, and mediastinal tumors. Dr. Neuhauser will discuss "Pediatric Roentgenology in General Practice" at the dinner Monday, 6:30 p. m.

MASSACHUSETTS

Personal.— The fourth annual Joseph L. Baer lecture, "Carcinoma in Situ of Cervix: Further Studies on Its Relationship to Cervical Carcinoma," was delivered before the Chicago Gynecological Society, Oct. 16, by Dr. Arthur T. Hertig, head of the department of pathology, Harvard Medical School, Boston.

New England Center Lectures.—The House Officers' Association, New England Center Hospital, is holding an evening lecture series. On Oct. 28, 7 p. m., Dr. Graham M. Bull, professor of medicine, Queen's University of Belfast, Belfast, North Ireland, will present "Postural Proteinuria" in the Stearns Auditorium, New England Center Hospital, Harrison Ave. and Bennet St., Boston. Discussors will be Drs. Alexander Leaf and Joseph M. Hayman Jr., Boston.

MICHIGAN

Beaumont Memorial.—The cornerstone for the Beaumont Memorial on the site in Mackinac Island where the Michigan State Medical Society is restoring the trading store of the American Fur Company, was laid on July 17 (see THE JOURNAL, May 3, 1952, p. 70; March 28, 1953, p. 117). Dr. Reader J. Hubbell, Kalamazoo, president, Michigan State Medical Society, the Hon. W. F. Doyle, Mackinac Island State Park Commission, and Dr. Otto O. Beck, Birmingham, chairman, Beaumont Memorial Fund, officiated at the cornerstone laying. Participating in the ceremony were Dr. William S. Jones, Menominee; Dr. Albert H. Miller, Gladstone; Dr. William Bromme, Detroit; Dr. Alfred H. Whittaker, Detroit; the Hon. G. Mennen Williams, governor of Michigan; the Hon. Leslie O'Brien, mayor of Mackinac Island; and the Rev. Thomas W. Murphy, Detroit. The ceremony commemorated the historical episode on June 19, 1822, when Dr. William Beaumont began the treatment of Alexis St. Martin for a gaping gunshot wound in the stomach and, through his observations on the gastric fistula became the first to study the process of digestion in life.

MINNESOTA

Dr. Vadheim Appreciation Day.—Dr. Alfred L. Vadheim, Tyler, was honored by his community, which celebrated "Vadheim Appreciation Day" to mark the 43rd anniversary of his arrival in Tyler. Dr. Vadheim has served as mayor and as a member of the school board, has been active in Boy Scout work, and assisted in establishing the library. As Red Cross director for Lincoln County, he brought the county national honor in 1941 when it became the first in the world to become accredited for the control of tuberculosis.

Rigler Lecture.—The annual Leo G. Rigler lecture will be presented at the University of Minnesota, Minneapolis, Oct. 28, by Dr. Robert McWhirter, professor, department of radiotherapy, Royal Infirmary, Edinburgh. His subject will be "Simple Mastectomy and Postoperative Irradiation for Carcinoma of the Breast." Dr. McWhirter will also participate in the continuation course in radiation therapy which will be presented by the university, Oct. 26-31, under the direction of Dr. Leo G. Rigler and Karl W. Stenstrom, Ph.D.

MISSOURI

Society News.—The St. Louis Pediatric Society has elected Dr. Harry E. Wachter, president; Dr. Raymond J. LaDriere, vice-president; and Dr. Leo F. Gowen, secretary-treasurer. Meetings are held at Medart's Restaurant on the second Thursday of each month from October through May.——At the annual meeting of the St. Louis Ophthalmological Society, the following officers were elected: president, Dr. Harry D. Rosenbaum; vice-president, Dr. James H. Bryan; treasurer, Dr. Ruth S. Freedman; secretary, Dr. Anton J. Hummel; and member-at-large, Dr. Robert D. Mattis.

General Practitioners Meet in Jefferson City.—The Missouri Academy of General Practice will hold its annual scientific assembly at the Governor Hotel, Jefferson City, Oct. 28-29. At the Wednesday luncheon session, Dr. Ralph A. Kinsella, St. Louis, will present "Evaluation of Chest Pain." Other speakers on the Wednesday afternoon program include Drs. Henry R. McCarroll and Joseph C. Jaudon, St. Louis; Thomas E. McMillan, Kansas City; and Paul S. Williamson, Walsh, Colo. Dr. Roscoe L. Pullen, dean, University of Missouri School of Medicine, Columbia, will be guest speaker at the annual banquet Wednesday evening. Essayists on the Thursday program (Drs. Charles A. Brasher, Mount Vernon; Harry B. Stauffer, Jefferson City; Carl A. Moyer, St. Louis; William A. Sodeman, Columbia; and Paul S. Williamson, Walsh, Colo.) will also take part in a luncheon round-table discussion Thursday noon.

NEBRASKA

Dr. Kriz Presents Pool to Home Town.—Dr. Rudolph E. Kriz recently presented a $14,000 swimming pool to the city of Lynch whose citizens assisted in construction of the pool by furnishing labor and equipment for the excavating.

NEW HAMPSHIRE

Society News.—The New Hampshire Society of Anesthesiologists has elected the following officers for 1953: president, Dr. Frank G. Dudley, Littleton; vice-president, Dr. Angus M. Brooks, Concord; and secretary-treasurer, Dr. Agnes V. Bartlett, Springfield, Vt.

NEW JERSEY

Clinic for Amputee Children.—The Kessler Institute for Rehabilitation, Pleasant Valley Way, West Orange, will hold a free clinic for congenital amputee children and their parents Oct. 24.

Award to Dr. Orton.—The Academy of Medicine of Northern New Jersey presented its Edward J. Ill Award, to Dr. Henry B. Orton, professor of laryngeal surgery, New York Polyclinic Medical School and Hospital, New York. Dr. Orton is credited with having made important contributions in cancer of the larynx and, in his fight to prevent injuries to children from lye-containing household products, with having been instrumental in passage of a law by the state legislature of New Jersey, which requires that every product containing lye be marked poison.

Society News.—The New Jersey Allergy Society has elected the following officers for the coming year: president, Dr. Edward E. Seidmon, Plainfield; vice-president, Dr. William B. Nevius, East Orange; treasurer, Dr. Eugene J. Luippold, Boonton; and secretary, Dr. Frank Rosen, Newark.——At the annual meeting of the New Jersey Society of Clinical Pathologists, the following officers were elected for 1953-1954: president, Dr. Thomas K. Rathmell, Trenton; vice-president, Dr. George L. Erdman, Summit; and secretary-treasurer, Dr. Robert Brill, Passaic.——An award for "outstanding services to the society" was made to Elmer L. Shaffer, Ph.D., director of laboratories, New Jersey State Health Department. The program for the year includes tissue seminars, seminars in clinical pathology, and a special seminar in cooperation with the State Society of Medical Technologists.

NEW YORK

Hospital News.—The Mount Sinai Hospital, New York, announces that the weekly clinical pathological conferences by Dr. Paul Klemperer and Dr. Alexander B. Gutman and staff will be resumed Oct. 28, 3:30 p. m., and that weekly medical grand rounds by Dr. Gutman and staff will be resumed Oct. 30, 3 p. m., in the Blumenthal Auditorium of the Mount Sinai Hospital (entrance on Fifth Ave. at 99th St. through the hospital gardens).

Cardiac Teaching Day.—A postgraduate teaching day on heart disease for physicians and medical students will be held Oct. 29 at the Rochester Academy of Medicine, 1441 East Ave. At 2 p. m. Dr. Richard H. Lyons, Syracuse, will discuss "Treatment of Intractable Cardiac Failure," and at 3 p. m. Dr. Paul M. Zoll, Boston, will present "Recent Advances in Knowledge of Coronary Circulation." There will be a clinical pathological conference at 4 p. m.

Lecture on Chronic Arthritis.—At a meeting of the combined staffs of Binghamton City Hospital, Oct. 26, 8 p. m., at the hospital, Dr. Russell L. Cecil, professor of clinical medicine, Cornell University Medical College, New York, will discuss "The Treatment of Chronic Arthritis." This program of postgraduate instruction is arranged by the state council committee on public health and education, Medical Society of the State of New York, in cooperation with the New York State Department of Health.

Meeting of General Practitioners.—The annual scientific session of the New York State Academy of General Practice will convene at the Hotel Statler, New York City, Oct. 26-28. Each day's program will terminate with a round-table discussion at 3:15 p. m. by the speakers of the day: Monday, pediatric problems: Dr. Philip M. Stimson, New York City (poliomyelitis); Dr. John R. Cobb, New York City (orthopedic problems); Dorothy W. Baruch, Ph.D., Beverly Hills, Calif. (juvenile delinquency); and Dr. Samuel Karelitz, New York City (contagious diseases). Tuesday, adult problems: Dr. Walter C. Alvarez, Chicago (our neurotic population); Dr. Philip Thorek, Chicago (acute surgical emergencies in adults); Dr. Harold A. Abramson, New York City (psychosomatic allergy); Dr. Louis M. Hellman, Brooklyn (gynecologic problems); and Alfred C. Kinsey, Sc.D., Bloomington, Ind. (sexual behavior in the adult). Wednesday, geriatric problems: Dr. Edward J. Stieglitz, Washington, D. C. (patients, 70 years and older); Dr. Howard A. Rusk, New York City (rehabilitation of the aged); Dr. Alvarez (geriatric neuroses); Dr. Nolan D. C. Lewis, New York City (geriatric psychosis); and Dr. Louis H. Bauer, Hempstead (socioeconomic problems of the aged). Dr. Rusk and staff will hold a clinic at the Rehabilitation Center, Thursday at 10 a. m.

New York City

Hospital News.—The division of neoplastic diseases, Montefiore Hospital for Chronic Diseases, is presenting a series of conferences at 3 p. m. on the first Friday of each month in the social hall. On Nov. 6 "Endocrine Approaches to the Cancer Problem" will be the topic of Dr. Roy Hertz, chief, research medicine branch, National Cancer Institute, Bethesda, Md.

Lecture on Oral Pathology.—Lester R. Cahn, D.D.S., associate professor, oral pathology, Columbia University School of Dental and Oral Surgery of the Faculty of Medicine, will give a lecture, "The Practical Application of Basic Pathology: Inflammation and Repair," at the conference of the New York Institute of Clinical Oral Pathology, 9 p. m., Oct. 26, at the New York Academy of Medicine, room 440.

Cofer Memorial Chapel.—The Leland Eggleston Cofer Memorial Chapel, adjacent to the main entrance lobby of the New York Hospital, was recently dedicated as a nondenominational chapel in memory of Dr. Leland Eggleston Cofer, who died in 1948 after a distinguished career in surgery and public health, including such posts as commissioner of health of the Hawaiian Islands and commissioner of the port of New York. Mr. Hamilton Hadley, vice-president of the Society of the New York Hospital, thanked Mrs. Cofer and an anonymous donor for their gifts, which "have given us what we have not had in all our 182 years of history . . . a chapel."

Personal.—Dr. James Marion Bryant, who is in charge of inpatient cardiology on the fourth medical division of New York City's Bellevue Hospital, under the direction of Dr. Charles F. Wilkinson Jr., professor of medicine for the Post-Graduate Medical School of New York University-Bellevue Medical Center, has been appointed assistant professor of medicine at the school.——The Department of Defense, Washington, D. C., recently awarded a certificate of appreciation to Dr. Julius Lempert, surgical director of the Lempert Institute of Otology, who for several years has voluntarily accepted in his graduate classes specialists in otolaryngology from the Armed Forces Medical Services.

Course on Surgery of the Hand.—The New York and Brooklyn Regional Committee on Trauma of the American College of Surgeons announces a course on surgery of the hand, Dec. 11-12, 9 a. m. to 5 p. m. The course will be given at the Lenox Hill Hospital Einhorn Auditorium, 76th St. and Lexington Ave., by Drs. Joseph H. Boyes, Los Angeles; John H. Couch, Toronto, Canada; Michael L. Mason, Chicago; and J. William Littler, Robert H. Kennedy, Harrison L. McLaughlin, Ernest W. Lampe, and Thomas W. Stevenson Jr., all of New York. Advance registration is necessary. Communicate with Dr. Frederick M. Smith, Secretary, 180 Fort Washington Ave., New York 32.

NORTH CAROLINA

Lectures on Obstetrics.—A series of lectures on obstetrics has been arranged as part of a postgraduate medical course at Morganton, sponsored by the University of North Carolina School of Medicine, Chapel Hill, and the extension division, with the cooperation of a committee of physicians from Burke and adjoining counties. On Oct. 28 Dr. Edward A. Schumann, Philadelphia, will present "Toxemias of Pregnancy" at 4 p. m. and will discuss "Problems of Fetal and Neonatal Mortality" at 7:30 p. m.

NORTH DAKOTA

Meeting on Public Health.—The North Dakota Public Health Association will have its annual meeting at the Ray Hotel in Dickinson, Oct. 26-27. Featured speakers will include the Hon. C. Norman Brunsdale, governor of North Dakota; Dr. Charles F. Blankenship, regional medical director, U. S. Public Health Service, Kansas City, Mo.; and Dr. Russell O. Saxvik, state health officer, state department of health, Bismarck.

OHIO

Society News.—The sixth councilor district, Ohio State Medical Association, will hold its annual postgraduate day Oct. 28 at the St. Francis Hotel, Canton. Panel discussion topics include (1) "Infectious Diseases of the Pancreas and Chronic Relapsing Pancreatitis" and (2) "Chronic Ulcerative Colitis and Regional Enteritis." Among the panel members will be Drs. Robert M. Zollinger, Ohio State University College of Medicine, Columbus, moderator; Sara M. Jordan and Kenneth W. Warren, Lahey Clinic, Boston; Philip F. Partington, Western Reserve University School of Medicine, Cleveland; Everett N. Collins, and J. Beach Hazard, Cleveland Clinic. Papers will be presented by Drs. Jordan, Hazard, Partington, and Dr. Warren. Dr. Richard H. Overholt, Tufts College Medical School, Boston, will speak during the evening program on the subject, "The Fourth Dimension in Thoracic Surgery." Reservations may be made through Mr. E. M. Sprunger, executive secretary, Stark County Medical Society, 400 Fourth St., N. W., Canton 2.

OKLAHOMA

Meeting of Anesthesiologists.—Dr. Douglas W. Eastwood, St. Louis, will be guest speaker at the annual fall meeting of the Oklahoma Society of Anesthesiologists, Oct. 25, at the Oklahoma Club in Oklahoma City.

PENNSYLVANIA

Society News.—The Heart Association of Southeastern Pennsylvania is holding classes in dietary instruction for cardiovascular patients from the Philadelphia area in the Sheppard building of Woman's Hospital, Parrish and Preston Sts., on the first Tuesday of each month from 7 to 8 p. m. Any patient, private or clinic, whose physician believes he would benefit by professional guidance in following a reducing, salt free, or other type of special diet, is eligible to attend these classes. This free service is provided by the division of adult cardiovascular diseases of the Department of Health of the Commonwealth of Pennsylvania. Appointments may be made by contacting the Heart Association of Southeastern Pennsylvania, 1505 Walnut St., telephone LO 4-1185.

Philadelphia

Society News.—The annual meeting of the Philadelphia Allergy Society will be held Oct. 28 at the College of Physicians. Dr. Oscar Swineford Jr., Charlottesville, Va., will speak on "Background Observations on the Bacterial Allergy Problem." In a panel discussion, which will follow, Dr. Swineford will talk on "Asthma," Dr. Harry P. Schenck on "Allergic Rhinitis," and Joseph Smolens, B.S., on "Bacterial Antigens." Papers on allergy will be presented by Drs. David Myers and Alexander Sterling.

Pemberton Memorial Lecture.—The Philadelphia County Medical Society announces that the Ralph Pemberton Memorial lecture will be presented by Dr. Charles A. Ragan Jr., associate professor of medicine, Columbia University College of Physicians and Surgeons, New York, Oct. 29 at 9 p. m. His subject will be "The Pathologic Physiology of Bone and Joint Disease." The society will hold an afternoon program on therapy of the rheumatic diseases, beginning at 2 p. m. and terminating with a panel discussion at 4 p. m. Cocktails, 6:30 p. m., will precede a subscription dinner open to the medical profession.

SOUTH CAROLINA

Personal.—Dr. William S. Fewell has retired from general practice and will serve as full-time medical director of the Liberty Life Insurance Company, Greenville, S. C.

Society News.—At a recent meeting of the South Carolina Society of Anesthesiologists the following officers were elected: president, Dr. John M. Brown, Charleston; vice-president, Dr. Richard Wayburn, Columbia; and secretary-treasurer, Dr. George L. Timmons, Hartsville.

TEXAS

Hospital News.—The University of Texas Medical Branch in Galveston announces that completion of the new John Sealy Hospital building and of the Henry and Rosa Ziegler Memorial Hospital for diseases of the chest will increase the bed capacity of the medical branch hospitals from 700 to 1500. Opportunities are being offered for intern training in hospital administration under the direction of Mr. Edgar N. Cappleman, C.P.A., recently appointed acting administrator of the University of Texas Medical Branch Hospitals in Galveston.

VERMONT

Research Grants.—The National Institute of Health has awarded research grants totaling $46,920 to the following members of the faculty of the University of Vermont College of Medicine, Burlington: Dr. Eugene Lepeschkin, associate professor of experimental medicine, $15,380; Dr. Ethan A. Sims, assistant professor of medicine and biochemistry, and Dr. Kermit E. Krantz, assistant professor of obstetrics and gynecology, $12,181 for a study of renal function in pregnant women; Dr. Oscar S. Peterson, associate professor of radiology, $14,931 (continuing grant) for the development of rotational x-ray therapy, and Arnold H. Schein, Ph.D., associate professor of biochemistry, $4,428 for study of a chemical problem under the title "Purification of the Purine Oxidizing Enzymes, Xanthine Oxidase, Uricase, and Guanase."

Symposium on Cardiovascular Diseases.—At the annual meeting of the Vermont Heart Association, Oct. 26-30, in the Fleming Museum, Burlington, a symposium on cardiovascular diseases will be held in cooperation with the Vermont Heart Commission and the University of Vermont College of Medicine, Burlington. Monday, 9:30 a. m., Dr. Louis A. Selverstone, Boston, will present "Symptoms and Signs of Cardiovascular Disease" and at 2 p. m. will speak on congestive cardiac failure. At 4 p. m. there will be a case presentation on congestive cardiac failure at Bishop DeGoesbriand Hospital. Tuesday, 9:30 a. m., Dr. James H. Currens, Boston, will talk on electrocardiograms, and at 2 p. m. Dr. Gordon S. Myers, Boston, will discuss "Diagnosis and Management of Cardiac Arrhythmias." Case presentations on arrhythmias will be made at the Mary Fletcher Hospital, Durfee Clinic, 4 p. m. Wednesday morning Dr. James A. Evans, Boston, will discuss the diagnosis and medical management of hypertension, and in the afternoon Dr. Edwin F. Lang, Boston, will speak on surgical management, selection, and operative procedures in hypertension. Case presentations in hypertension will be made at the Durfee Clinic at 4 p. m. Thursday morning will be devoted to a paper, entitled "Pitfalls in the Diagnosis and Treatment of Cardiac Emergencies," by Dr. Conger Williams, Boston, and Thursday afternoon to a panel discussion on problems of the cardiac, for which Dr. George A. Wolf Jr., Burlington, will serve as moderator. The annual meeting of the Vermont Heart Association will be held at 4 p. m. Discussion of coronary disease by Dr. E. Hugh Luckey, New York, 9:30 a. m. Friday, will be followed by case presentations on coronary disease. Friday afternoon "The Rheumatic Fever Program" will be presented by Drs. Robert J. McKay and Olive M. Davies, Burlington, and "The Cardiopulmonary Diagnostic Clinic" by Dr. Donald B. Miller, Burlington. Formal opening of the Cardiopulmonary Clinic and a tour of inspection are scheduled at the Mary Fletcher Hospital at 3 p. m.

WASHINGTON

Meeting of General Practitioners.—The Washington chapter of the American Academy of General Practice will hold its annual convention and scientific session in the Chinook Hotel in Yakima, Oct. 30-31. Among the speakers will be Dr. Raymond W. McNealy, Chicago; Dr. Peter H. Forsham, San Francisco; and Mac F. Cahal, executive secretary of the American Academy of General Practice, Kansas City, Mo.

Fifty Year Buttons.—During its annual convention in Seattle the Washington State Medical Association awarded gold lapel buttons in recognition of 50 years of medical practice to Drs. Richard W. Perry, Fordyce C. Gorham, Clyde A. Fitzgerald, Francis M. Carroll, Herbert H. Canfield, David H. Houston, John E. Godfrey, Frank T. Maxson, Walter J. Howells, Park Weed Willis Sr., Maimon Samuels, and Lilian C. Irwin, all of Seattle; Leon L. Goodnow and Oliver R. Austin, Aberdeen; Herbert L. Underwood, Vancouver; Joseph E. Midgett, Des Moines; John P. Schutt, Bremerton; Arthur B. Cook, Anacortes; William A. Mitchell, Colfax; Charles E. Conway, Cashmere; Clyde E. Gray, Tacoma; Orme R. Nevitt, Raymond; and Harry E. Rhodehamel, Spokane.

WISCONSIN

Personal.—The following new members of the Wisconsin State Board of Medical Examiners have been named by Gov. Walter J. Kohler: Drs. John A. Schindler, Monroe, and Millard Tufts, Milwaukee, to replace Drs. Anthony F. Rufflo, Kenosha, and Ernest W. Miller, Milwaukee, whose terms ended July 1; Drs. Jerry W. McRoberts, Sheboygan, Thomas W. Tormey Jr., Madison, and Clifford A. Olson, Baldwin, to replace Drs. John W. Smith, Milwaukee, and Henry H. Christofferson, Colby, who resigned their positions, and to fill the position left vacant in 1951 by the death of Dr. Charles A. Dawson, River Falls.

University News.—The following promotions are announced by the University of Wisconsin Medical School, Madison: Dr. Ann Bardeen from instructor to assistant professor of anesthesia; in the department of medicine, Drs. Edgar S. Gordon and Marc J. Musser from associate professor to professor; Dr. Thomas H. Lorenz from instructor to assistant professor; Dr. John LeRoy Sims from assistant professor to associate professor; and Dr. H. Kent Tenney from associate professor to clinical professor (pediatrics); in the department of surgery (ophthalmology), Dr. Peter A. Duehr from associate professor to clinical professor of ophthalmology; Drs. John V. Berger and Frederick J. Davis from instructor to assistant clinical professor of ophthalmology; and Dr. Eleanor Maxine Bennett from instructor to associate professor.

Cancer Teaching Clinics.—Cancer diagnostic teaching clinics will be held at the Lutheran Hospital, Eau Claire, Oct. 27; the Memorial Hospital, Wausau, Oct. 28; and St. Elizabeth's Hospital, Appleton, Oct. 29. The following program will be presented, 2-5:15 p. m.:

Uterine Cancer, Roy G. Holly, Minneapolis.
Lung Cancer, Hiram T. Langston, Chicago.
Cytologic Diagnosis of Cancer, Gordon Worley Jr., Madison.
Oral Cancer, Frank D. Bernard, Madison.

At 6:30 p. m. there will be a dinner meeting with dentists (Eau Claire, Hotel Eau Claire; Wausau, Wausau Club; and Appleton, The Elks Club). Dr. Frank D. Bernard will present "The Dentist and the Physician—A Team in the Diagnosis of Early Oral Malignancies." Through funds made available by the American Cancer Society, Wisconsin division, these clinics are open to members of the State Medical Society of Wisconsin and Wisconsin State Dental Society without charge. Reservations are necessary for the dinner ($3). Requests should be sent to Dr. Anthony R. Curreri, Chairman, Committee on Cancer, SMS, 704 E. Gorham St., Madison.

GENERAL

Society News.—The annual meeting of the **American Academy for Cerebral Palsy** will be held Oct. 30-31 at the Western Hills Hotel, Ft. Worth, Texas. The scientific sessions are open to members of the medical or allied professions.

Meeting on Clinical Research.—The Central Society for Clinical Research will meet at the Drake Hotel, Chicago, Oct. 30-31. Dr. George E. Burch Jr., New Orleans, will deliver the presidential address during the Friday morning session. Participants in the 35 presentations that have been scheduled will include 49 speakers by invitation.

Meeting of Medical Colleges.—The Association of American Medical Colleges will hold its annual meeting at the Claridge Hotel, Atlantic City, N. J., Oct. 26-28, under the presidency of Dr. Ward Darley, Denver. The chief findings and recommendations of the survey of premedical education will be presented Tuesday at 10 a. m. by Aura E. Severinghaus, Ph.D., Columbia University College of Physicians and Surgeons, New York, and the chief findings and recommendations of the survey of medical education, at 2 p. m. by Dr. John E. Deitrick, Jefferson Medical College, Philadelphia. At 9 p. m. there will be a film program, medical audio-visual institute.

Prevalence of Poliomyelitis.—According to the National Office of Vital Statistics; the following number of reported cases of poliomyelitis occurred in the United States, its territories, and possessions in the weeks ended as indicated:

	Oct. 10, 1953		
Area	Paralytic Type	Total Cases Reported	Oct. 11, 1952 Total
New England States			
Maine	7	20	7
New Hampshire	..	..	3
Vermont	1	7	3
Massachusetts	15	36	33
Rhode Island	..	14	10
Connecticut	5	12	18
Middle Atlantic States			
New York	36	131	139
New Jersey	29	45	36
Pennsylvania	..	76	82
East North Central States			
Ohio	20	126	190
Indiana	..	15	155
Illinois	19	48	280
Michigan	34	89	252
Wisconsin	..	46	104
West North Central States			
Minnesota	15	74	302
Iowa	7	21	158
Missouri	5	18	75
North Dakota	2	6	9
South Dakota	..	4	79
Nebraska	2	6	99
Kansas	4	15	81
South Atlantic States			
Delaware	1	1	4
Maryland	18	26	10
District of Columbia	..	1	4
Virginia	8	15	34
West Virginia	7	19	16
North Carolina	6	10	34
South Carolina	1	5	10
Georgia	4	8	31
Florida	18	46	32
East South Central States			
Kentucky	4	7	60
	7	11	22
	5	8	6
	..	2	19
West South Central States			
Arkansas	6	9	15
Louisiana	11	19	13
Oklahoma	..	12	39
Texas	11	22	43
Mountain States			
Montana	7	12	17
Idaho	..	3	10
Wyoming	1	4	11
Colorado	4	4	46
New Mexico	..	2	14
Arizona	6	13	26
Utah	..	1	13
Nevada	3	3	4
Pacific States			
Washington	..	20	50
Oregon	8	12	34
California	80	186	138
Territories and Possessions			
Alaska	..	..	7
Hawaii	..	..	2
Puerto Rico	..	..	4
Total	417	1,290	2,883

Southwestern Medical Association.—The annual meeting of the Southwestern Medical Association is scheduled to be held at the Pioneer Hotel, Tucson, Ariz., Oct. 29-31. Presentations by guest speakers include:

William P. Thompson, Los Angeles, (1) Selection of Patients for Mitral Commissurotomy. (2) Prevention of Coronary Thrombosis. (3) Management of Congestive Heart Failure.
Donovan C. Browne, New Orleans, (1) Controversial Problems in Management of Peptic Ulcer. (2) Postgastrectomy Dumping Syndrome. (3) Management of Chronic Ulcerative Colitis.
Henry K. Ransom, Ann Arbor, Mich., (1) Diverticulitis of the Colon. (2) Surgical Treatment of Duodenal Ulcer. (3) Diseases of the Breast.

Drs. Edmund B. Spaeth, Philadelphia, Merl J. Carson, Los Angeles, and Marion B. Sulzberger, New York, will also participate in the program (subjects to be announced).

Meeting on Mental Health.—The National Association for Mental Health will hold its annual meeting at the Hotel Carter, Cleveland, Oct. 31 to Nov. 2. The theme of the conference, "Mental Health—Everybody's Business," will be introduced with presentation of "Everyone Has a Stake in Community Mental Health," by Dr. George S. Stevenson, national and international consultant of the association, which will be followed by a panel discussion at 10 a. m. At 12:30 p. m. Dr. Erich Lindemann, Boston, will discuss "Preventive Psychiatry for the Total Community" at the keynote luncheon in the Rainbow Room. Workshops on activities of mental health associations will be conducted at 2:30 p. m. On Sunday, 2:30 p. m. in the grand ballroom there will be a panel discussion, "Toward Greater Citizen Participation." At 8 p. m. in the grand ballroom there will be an open discussion on education in mental health. This will include idea exchange of educational activities used by state and local mental health associations in informing the public about mental health. Monday, 9 a. m., in the grand ballroom, a program on progress in improved care of the mentally ill will be presented. At 10:30 a. m. Dr. Walter H. Baer, Peoria, Ill., will be discussion leader for workshops on activities of mental health associations related to psychiatric aids. Dr. Paul Lemkau, Baltimore, will preside at luncheon in the Petit Cafe 12:30 p. m., at which the speakers will be Dr. William Malamud, Boston, director, NAMH research in dementia praecox, and Mr. Raymond G. Fuller, New York, director, study of administration of state psychiatric services. At 2:30 p. m. in the grand ballroom, Luther Woodward, Ph.D., director, community services, New York State Mental Health Commission, will have as his topic, "Rehabilitation of the Mentally Ill."

Southern Medical Association.—The 47th annual meeting of this association will be held at the Municipal Auditorium, Atlanta, Oct. 26-29. The opening assembly will be a public session Monday, 10:30 a. m., at which Dr. Walter C. Jones, Miami, Fla., president, will deliver an address, "Forgive Us Our Debts." His presentation will be followed by a discussion, entitled "Federal Medicine, Its Impact on the Medical Care of the American People," by Dr. Walter B. Martin, Norfolk, Va., President-Elect of the American Medical Association. On Tuesday the Hon. James C. Davis, representing the Fifth Congressional District of Georgia, will address the section on general practice at a luncheon meeting in the Dinkler Plaza Hotel, Civic Room, at noon. His subject will be "Socialized Medicine and Free Enterprise." The section on medicine will have a panel discussion Tuesday on newer techniques and problems in medical diagnosis and Thursday on the use of newer therapeutic agents. A panel on amebiasis will be presented by the section on gastroenterology Tuesday afternoon, and Wednesday morning the Southern Electroencephalographic Society will have a panel discussion on technique, instrumentation, procedures and problems in clinical electroencephalography. "Anesthesia in Urology" is the topic for the panel discussion to be presented Wednesday, 9 a. m., by the section on anesthesiology. The section on allergy has planned a round-table discussion on pediatric atopic dermatitis (eczema) for Tuesday afternoon. Wednesday afternoon "Research in the Clinical Center of the National Institutes of Health, Public Health Service," will be explained by Dr. William H. Sebrell Jr., Bethesda, Md., who will illustrate his talk with lantern slides. *Motion pictures will be shown in the Municipal Auditorium*, Tuesday and Wednesday, 9 a. m. to *5:30 p. m. The association dinner and dance will be held at* the Atlanta Biltmore Hotel, Wednesday, 7 p. m.

CANADA

Lecture on Thyroid Disease.—The 16th annual Louis Gross Memorial lecture, under the auspices of the Montreal Clinical Society, will be delivered at the Jewish General Hospital, Montreal, Quebec, Oct. 29, 8:30 p. m. by Dr. Martin M. Hoffman, associate professor of medicine and psychiatry, McGill University Faculty of Medicine, Montreal. The subject will be "The Physiopathology of Thyroid Disease."

LATIN AMERICA

Venezuelan Health Director to WHO Staff.—Dr. Carlos Luis Gonzalez, director of public health of Venezuela, has been appointed chief of the division of public health, Pan American Sanitary Bureau, Regional Office of the World Health Organization in Washington, D. C. Dr. Gonzalez has represented his country at most of the World Health assemblies and the meetings of the Directing Council of the PASB, serving as council chairman at its sixth meeting last autumn in Havana, where he was also a delegate to the First Inter-American Congress on Public Health.

MEETINGS

AMERICAN MEDICAL ASSOCIATION: Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

1953 Clinical Meeting, St. Louis, Dec 1-4.

1954 Annual Meeting, San Francisco, June 21-25.

1954 Clinical Meeting, Miami, Florida, Nov. 30-Dec. 3.

1955 Annual Meeting, Atlantic City, N. J., June 6-10.

1955 Clinical Meeting, Boston, Nov. 29-Dec. 2.

American Academy for Cerebral Palsy, Western Hills Hotel, Fort Worth, Texas, Oct 30-31. Dr. Harry E. Barnett, 116 S. Michigan Blvd., Chicago 3, Secretary.

American Academy of Dermatology and Syphilology, Palmer House, Chicago, Dec. 5-10. Dr. John E. Rauschkolb, P. O. Box 6565, Cleveland 1, Secretary.

American Academy of Obstetrics and Gynecology, Netherland Plaza Hotel, Cincinnati, Dec. 14-16. Dr. C. Paul Hodgkinson, 116 South Michigan Blvd., Chicago 3, Secretary.

American Academy of Tropical Medicine, Brown Hotel, Louisville, Ky., Nov. 12-14. Dr. E. Harold Hinman, University of Puerto Rico, School of Medicine, San Juan 22, P. R., Secretary.

American Cancer Society, New York, Nov. 2-6. Dr. Charles S. Cameron, 47 Beaver St., New York 4, Medical Director.

American Clinical and Climatological Association, The Homestead, Hot Springs, Va., Nov. 2-4. Dr. Marshall N. Fulton, 124 Waterman St., *Providence 6, R. I., Secretary.*

American College of Cardiology, Hotel Statler, Cleveland, Ohio, Nov. 6-7. Dr. Philip Reichert, 480 Park Ave., New York 22, Secretary.

American Public Health Association, Hotel New Yorker and Hotel Statler, New York, Nov. 9-13. Dr. Reginald M. Atwater, 1790 Broadway, New York 19, Executive Secretary.

American School Health Association, Hotel New Yorker, New York, Nov. 9-13. Dr. A. O. DeWeese, 515 East Main St., Kent, Ohio, Secretary.

American Society for the Study of Arteriosclerosis, Hotel Knickerbocker, Chicago, Nov. 1-2. Dr. O. J. Pollak, P. O. Box 228, Dover, Del., Secretary.

American Society of Tropical Medicine and Hygiene, Brown Hotel, Louisville, Ky., Nov. 12-14. Dr. John E. Larsh Jr., University of North Carolina, School of Public Health, Chapel Hill, N. C., Secretary.

Association of American Medical Colleges, Hotel Claridge, Atlantic City, N. J., Oct. 26-28. Dr. Dean F. Smiley, 185 N. Wabash Ave., Chicago 1, Secretary.

Association of Military Surgeons of the United States, Hotel Statler, Washington, D. C., *Nov. 8-11. Dr. R. R. Sayers, Armed Forces Institute* of Pathology, Washington 25, D. C., Secretary.

Association for Research in Nervous and Mental Diseases, Hotel Roosevelt, New York, Dec. 11-12. Dr. Clarence C. Hare, 710 West 168th St., New York 32, Secretary.

Association of State and Territorial Health Offcers, Washington Hotel, Washington, D. C., Nov. 4-7. Dr. John D. Porterfield, 306 Ohio Depts. Bldg., Columbus 15, Ohio, Secretary.

Central Association of Obstetricians and Gynecologists, The Shamrock, Houston, Texas, Nov. 5-7. Dr. Harold L. Gainey, Suite 602, 116 South Michigan Ave., Chicago 3, Secretary.

Conference of Public Health Veterinarians, Hotel New Yorker, New York, Nov. 9. Dr. James Lieberman, U. S. Public Health Service, *Washington 25, D. C., Secretary.*

Congress of Neurological Surgeons, Roosevelt Hotel, New Orleans, Nov. 12-14. Dr. B. W. Cannon, 1092 Madison Ave., Memphis, Tenn., Secretary.

Interstate Post Graduate Medical Association of North America, Palmer House, Chicago, Nov. 2-5. Dr. E. R. Schmidt, 1300 University Ave, Madison 5, Wisconsin, Secretary.

Inter-Society Cytology Council, Philadelphia, Nov. 19-20. Dr. Paul F. Fletcher, 634 North Grand Blvd., St. Louis 3, Secretary.

Midwestern Section of American Federation for Clinical Research, Congress Hotel, Chicago, Oct. 29. Dr. Robert J. Glaser, 600 S. Kingshighway Blvd., St. Louis 10, Secretary.

National Association for Mental Health, Hotel Carter, Cleveland, Oct. 31-Nov. 2. Dr. George S. Stevenson, 1790 Broadway, New York 19, Medical Director.

National Society for Crippled Children and Adults, Palmer House, Chicago, Nov 12-14. Mr. Lawrence J. Linck, 11 South LaSalle St., Chicago 3, Secretary.

National Society for the Prevention of Blindness, New York, Dec. 18. Dr. Franklin M. Foote, 1790 Broadway, New York 19, Executive Director.

New England Obstetrical and Gynecological Society, Hotel Somerset, Boston, Oct. 28. Dr. Carmi R. Alden, 270 Commonwealth Ave., Boston, Secretary.

North Pacific Surgical Association, Victoria, B. C., Nov. 20-21. Dr. John A. Duncan, 509 Olive Way, Seattle, Secretary.

Oklahoma City Clinical Society, Oklahoma City, *Oct. 26-29. Miss Alma* F. O'Donnell, 512 Medical Arts Bldg., Oklahoma City 2, Executive Secretary.

Omaha Mid-West Clinical Society, *Hotel Paxton*, Omaha, Oct. 26-30. Miss Irene Rau, 1031 Medical Arts Bldg., Omaha 2, Executive Secretary.

Pacific Northwest Society of Pathologists, Eugene, Oregon, Nov. 6-7. Dr. John L. Whitaker, 315 South K St., Tacoma 3, Wash., Secretary.

Radiological Society of North America, Palmer House, Chicago, Dec. 13-18. Dr. Donald S. Childs, 713 East Genesee St., Syracuse 2, N. Y., Secretary.

Regional Meetings, American College of Physicians:

- Michigan, H. H. Rackham Auditorium, Ann Arbor, Dec. 5. Dr. H. Marvin Pollard, 1313 East Ann St., Ann Arbor, Governor.
- *Midwest—Ill., Ind., Iowa, Minn., Wis.—Hotel Schroeder, Milwaukee, Nov. 21. Dr Francis D. Murphy, 536 West Wisconsin Ave., Milwaukee 3, Chairman.*
- *New England—Conn., Maine, Mass., N. H., R. I., Vt.—Hartford,* Conn., Oct. 28. Dr. John C. Leonard, 80 Seymour St., Hartford 15, Conn., Chairman.
- *New Jersey, Trenton, Nov. 4. Dr. Edward C. Klein Jr., 73 Lincoln* Park, Newark 2, Governor.
- North Carolina, Chapel Hill, Dec. 3. Dr. Elbert L. Persons, Duke Hospital, Durham, Governor.

Regional Meetings, American Rheumatism Association:

- Ohio and Western Pennsylvania, Mayflower Hotel, Akron, Ohio, Nov. 11. Dr. Roger Q. Davis, 1405 Goodyear Blvd., Akron 5, Ohio, Chairman.

Southern Medical Association, Municipal Auditorium, Atlanta, Ga., Oct. 26-29. Mr. C. P. Loranz, 1020 Empire Bldg., Birmingham 3, Ala., Secretary.

Southern Surgical Association, The Homestead, Hot Springs, Va., Dec. 8-10. Dr. John C. Burch, 2112 West End Ave., Nashville 5, Tenn., Secretary.

Southwestern Medical Association, Pioneer Hotel, Tucson, Ariz., Oct. 29-31. Dr. C. C. Stapp, 800 Montana St., El Paso, Texas, Secretary.

Western Surgical Association, The Drake, Chicago, Dec. 3-5. Dr. Michael Mason, 154 East Erie St., Chicago 11, Secretary.

FOREIGN

Association of Surgeons of Great Britain and Ireland, Leeds, England, May 13-15, 1954. Dr. Henry W. S. Wright, 45 Lincoln's Inn Fields, London W.C.2, England, Honorary Secretary.

British Medical Association, Glasgow, Scotland, July 1-9, 1954. Dr. A. MacRae, B.M.A. House, Tavistock Square, London, W.C.1, England, Secretary.

Canadian Medical Association, Vancouver, B. C., Canada, June 18-22, 1954. Dr. T. C. Routley, 135 St. Clair Ave. W., Toronto 5, Ont., Canada, General Secretary.

Conference of International *Union Against Tuberculosis, Madrid, Spain, Sept. 26-Oct. 2, 1954.* Secretariat, Escuela de Tisiologia, Ciudad Universitaria, Madrid, Spain.

Congress of International Anesthesia Research Society, Chateau Frontenac, Quebec, Canada, October 26-29. Dr. A. William Friend, 515 Nome Ave., Akron 20, Ohio, Chairman, Program Committee.

Congress of International Association for the Prevention of Blindness, New York, N. Y., U. S. A., Sept. 12-17, 1954. Professor Franceschetti, 2 Avenue Mirmot, Geneva, Switzerland, Secretary-General.

Congress of *International Society* of Surgery, Paris, France, May 21-22, 1954. Dr. L. Dejardin, 141, rue Belliard, Brussels, Belgium, General Secretary.

International Cancer Congress, Sao Paulo, Brazil, July 23-29, 1954. Prof. A. Prudente, 171 rua Benjamin Constante, Sao Paulo, Brazil, President.

International Conference on *Thrombosis and Embolism, Basle, Switzerland*, July 15-19, 1954. Dr. W. Merz, Chief Medical Officer, Gynecological Clinic, University of Basle, Basle, Switzerland, Hon. Secretary.

International Congress of Cardiology, Washington, D. C., and Bethesda, Md., U. S. A., Sept. 12-15, 1954. Dr. L. W. Gorham, 44 East 23d St., New York 10, N. Y., U. S. A., Secretary-General.

International Congress of Clinical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Dr. Robert A. Moore, Washington University School of Medicine, St. Louis 10, Missouri, U. S. A., Chairman, Committee on Arrangements.

International Congress on Group Psychotherapy, Toronto, Ont., Canada, Aug. 12-14, 1954. Dr. J. L. Moreno, Room 327, 101 Park Ave., New York 17, N. Y., U. S. A., Director of Organizing Committee.

International Congress of Hematology, *Paris, Sept. 6-11, 1954.* Dr. Jean Bernard, 86 rue d'Assas, Paris 6^e, France, Secretary.

International Congress of Hydroclimatism and Thalassotherapy, Dubrovnik, Yugoslavia, May 8-16, 1954. Prof. C. Plavsic, Zeleni Venac 1, *Belgrade, Yugoslavia, Secretary General.*

International Congress of Industrial Medicine, Naples, Italy, Sept. 13-19, 1954. Professor Scipione Caccuri, Director, Institute of Industrial Medicine Policlinico, Naples, Italy, Chairman, Organizing Committee.

International Congress of Internal Medicine, Stockholm, Sweden, Sept. 15-18, 1954. Professor Anders Kristenson, Karolinska Sjukhuset, Stockholm 60, Sweden, Secretary-General.

International Congress of International College of Surgeons, Sao Paulo, Brazil, April 26-May 2, 1954. Dr. Max Thorek, 1516 Lake Shore Drive, Chicago, Illinois, U. S. A., Secretary-General.

International Congress on Mental Health, University of Toronto, Toronto, Ontario, Canada, Aug. 14-21, 1954. For information write: Executive Officer, International Congress on Mental Health, 111 St. George St., Toronto, Ontario, Canada.

International Congress of Nutrition, Amsterdam, Netherlands, Sept. 14-18, 1954. For information write: Dr. M. van Eekelen, Centraal *Instituut voor Voedingsonderzoek T.N.O., 61 Catharynesingel*, Utrecht, Netherlands.

International Congress on Obstetrics and Gynecology, Geneva, Switzerland, July 26-31, 1954. Dr H. de Watteville, Maternité Hôpital Cantonal, Geneva, Switzerland, President.

International Congress of Ophthalmology, University of Montreal and McGill University, Montreal, Canada, Sept. 10-11, 1954, and Waldorf-Astoria, New York, N. Y., U. S. A., Sept. 12-17, 1954. Dr. William L. Benedict, 100 First Avenue Building, Rochester, Minnesota, U. S. A., Secretary-General.

International Congress of Orthopedic Surgery and Traumatology, Berne, Switzerland, Aug. 30-Sept. 3, 1954. For information write: Professor M. Dubois, Isle-Hospital, Berne, Switzerland.

International Congress of Psychology, Montreal, Canada, June 7-12, 1954. For information write: Prof. H. S. Langfeld, International Union of Scientific Psychology, Eno Hall, Princeton University, Princeton, N. J., U. S. A.

International Congress for Psychotherapy, Zurich, Switzerland, July 21-24, 1954. Dr. H. K. Fierz, Theaterstrasse 12, Zurich 1, Switzerland, Secretary General.

International Gerontological Congress, London and Oxford, England, July 12-22, 1954. Prof. R. E. Tunbridge, General Infirmary, Department of Medicine, The University, Leeds, England, President.

International *Poliomyelitis Congress*, Rome, Italy, Sept. 6-10, 1954. Mr. Stanley E. Henwood, 120 Broadway, New York 5, N. Y., U. S. A., Executive Secretary.

International Society of Blood Transfusion, Paris, France, Sept. 12-19, 1954. For information write: Colonel Julliard, Societe Internationale de Transfusion Sanguine, 53 Boulevard Diderot, Paris 12^e, France.

International Society for Cell Biology, Leiden, Netherlands, Sept. 2-9, 1954. Professor Peter J. Gaillard, University of Leiden, Leiden, Netherlands, Secretary.

International Society of Geographical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Professor Fred C. Roulet, Hebelstrasse 24, Basle, Switzerland, Secretary-General.

Journees Medicales, Paris, France, April 21-25, 1954. For information write: Secretariat of the Journees, 12, rue Pierre-Geofroix, Colombes (Seine) France.

Latin American Congress of Obstetrics and Gynecology, Buenos Aires, Argentina, Oct. 26-31. For information write: Sociedad Argentina de Obstetricia y Ginecologia, *Santa Fee 1171, Buenos Aires, Argentina, S. A.*

Latin American Congress of Otorhinolaryngology, Caracas, Venezuela, Feb. 21-25, 1954. Dr. Victorino Marquez Reveron, Centro, Medico, Caracas, Venezuela, Secretary-General.

Pacific Science Congress, Quezon City and Manila, Philippines, Nov. 16-28. Dr. Patrocinio Valenzuela, College of Pharmacy, University of the Philippines, Quezon City, Philippines, Secretary-General.

Pan American Congress of Otorhinolaryngology and Bronchoesophagology, Mexico, D.F., Mexico, Feb. 28-March 4, 1954. Dr. Pedro Hernandez Gonzalo, 8 No. 358, Vedado, Havana, Cuba, General Secretary.

Pan American Medical Association, International Medical Cruise Congress, S. S. Nieuw Amsterdam, Jan. 6-22, 1954. Dr. Joseph J. Eller, 745 Fifth Avenue, New York 22, N. Y., U. S. A., Executive Director.

Pan-Pacific Surgical Congress, Honolulu, Hawaii, Oct. 7-18, 1954. Dr. F. J. Pinkerton, Suite 7, Young Bldg., Honolulu 13, Hawaii, Director General.

Persian Gulf Medical Society, Dhahran, Saudi Arabia, Dec. 7-8. Dr. N. J. Conan Jr., Department of Internal Medicine, Arabian American *Oil Company, Dhahran, Saudi Arabia, Secretary.*

Sectional Meeting, American College of Surgeons, London, England, May 17-19, 1954. Dr. Michael L. Mason, 40 East Erie St., Chicago 11, Ill., U. S. A., Secretary.

South American Congress of Angiology, Sao Paulo, Brazil, July 1954. For information write: Dr. Rubens Carlos Mayall, Rua Senador Vergueiro 73, Rio de Janeiro, Brazil, S. A.

World Congress of International Society for the Welfare of Cripples, The Hague, Netherlands, Sept. 13-17, 1954. For information write: D. C. Schaap, Centrale Vereniging, Apeldoorschweg 51, Arnhem, Netherlands.

World Federation of Occupational Therapists, Edinburgh, *Scotland*, August 17, 1954.

EXAMINATIONS AND LICENSURE

EXAMINING BOARDS IN SPECIALTIES

American Board of Anesthesiology: *Written.* Various Centers, July 16, 1954. Sec., Dr. Curtiss B. Hickox, 80 Seymour St., Hartford 15.

American Board of Internal Medicine: *Oral.* Chicago, Nov. 30-Dec. 2. The closing date for acceptance of applications was April 1. *Written.* October 19. The closing date for acceptance of applications was May 1. Exec Sec.-Treas, Dr. William A. Werrell, 1 West Main St., Madison 3.

American Board of Neurological Surgery: *Oral.* New Haven, October. Final date for filing application was July 1. Sec., Dr. Leonard T. Furlow, Washington University School of Medicine, Kingshighway and Euclid Ave., St. Louis.

American Board of Neurology and Psychiatry: *Psychiatry and Neurology.* Dec. 14-15. Applications no longer being accepted. Chicago, April 29-30. Final date for filing application is Feb. 1. Sec., Dr. David A. Boyd, Jr., 102-110 Second Ave., S.W., Rochester, Minn.

American Board of Obstetrics and Gynecology: Written examination and review of case histories for all candidates will be held in various cities of the United States, Canada, and military centers outside the continental United States on Feb. 5. Case abstracts are to be sent by the candidate to the Secretary as soon as possible after receiving notification of eligibility to the Part I written examination. Application for *reexamination in Part II must be made prior to Feb. 1 of* any year. Sec., Dr. Robert L. Faulkner, *2105* Adelbert Road, Cleveland 6.

American Board of Ophthalmology: *Written.* Various Centers, January 25-26, 1954. Final date for filing applications was July 1. Sec., Dr. Edwin B. Dunphy, 56 Ivie Road, Cape Cottage, Maine.

American Board of Orthopaedic Surgery: *Part II.* Chicago, Jan. 20-22. Final date for filing application was August 15. Final date for filing application for Part I is Nov. 30. Sec., Dr. Harold A. Sofield, 122 S. Michigan Ave., Chicago 3.

American Board of Pediatrics: *Oral.* Indianapolis, Dec. 4-6. Exec. Sec., Dr. John McK. Mitchell, 6 Cushman Road, Rosemont, Pa.

American *Board of Plastic Surgery: Entire Examination.* San Diego, Oct. 29-31. Final date for receipt of case reports was June 1. Corres. Sec., Mrs. Estelle E. Hillerich, 4647 Pershing Ave., St. Louis 8.

American Board of Radiology: *Oral. Radiology, Roentgenology, Diagnostic Roentgenology and Therapeutic Radiology.* Chicago, Dec. 6-11. Final date for filing application was July 1. Sec., Dr. B. R. Kirklin, 102-*110 Second* Ave. *S.W.*, Rochester, Minn.

American Board of Surgery: *Part I.* Oct. 28, 1953. March 31, 1954 and Oct. 27, 1954. *Part II.* Chicago, Nov. 9-10; St. Louis, Dec. 14-15; Los Angeles, Jan. 11-12, 1954; Galveston, Jan. 15-16; Washington, Feb. 8-9; Cincinnati, March 8-9; New Orleans, April 12-13; Philadelphia, May 10-11; Boston, June 14-15. Sec., Dr. John B. Flick, 225 S. 15th St., *Philadelphia* 2.

DEATHS

Phaneuf, Louis Eusèbe ⊕ Boston; born in St. Hilaire, Quebec, Canada, Feb. 27, 1884; Tufts College Medical School, Boston, 1913; professor of gynecology at his alma mater; specialist certified by the American Board of Obstetrics and Gynecology; chairman, Section on Obstetrics and Gynecology, American Medical Association, 1943-1944; member of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons, of which he had been president, American Gynecological Society, New England Obstetrical and Gynecological Society, and the American Radium Society; fellow of the American College of Surgeons; corresponding member of the Société d'Obstétrique and de Gynécologie de Paris and honorary member of the Société Belge de Gynécologie et d'Obstétrique; surgeon-in-chief, gynecologic and obstetric department, Carney Hospital; surgeon-in-chief, department of gynecology, Boston Dispensary; consulting gynecologist, Beth Israel Hospital, Boston, Leonard Morse Hospital, Natick, Attleboro (Mass.) Hospital, Marlboro (Mass.) Hospital, and Henrietta D. Goodall Hospital in Sanford, Maine; consulting gynecologist and obstetrician, Fall River General and St. Anne's hospitals in Fall River, Mass.; consultant, Malden (Mass.) Hospital; in June, 1933, received the doctor of science degree from Tufts College; at the celebration of the centenary of l'Université Laval at Quebec City in 1952 he was granted the degree of doctor of medicine, honoris causa; died Sept. 20, aged 69, following partial gastrectomy for peptic ulcer.

Ferlaino, Frank R. ⊕ New York City; born Feb. 1, 1899; Johns Hopkins University School of Medicine, Baltimore, 1927; clinical instructor of public health, New York Medical College, Flower and Fifth Avenue Hospitals; specialist certified by the American Board of Internal Medicine; served during World War I; secretary of the council on postgraduate medical education, American College of Chest Physicians; district counselor for the Industrial Medical Association; member of the American Trudeau Society, American Public Health Association, and the American Heart Association; at one time chairman of the medical advisory board of the state athletic commission; member of the board of directors of the American Research and Education Foundation for Chest Disease; secretary and director of the Common Cold Foundation in Chicago; for many years medical director of the New York offices of General Motors; affiliated with Roosevelt Hospital; served as medical consultant to the Stony Wold Sanatorium in the Adirondacks, Lake Kushaqua, N. Y., and as associate medical director of Schenley Laboratories; associate editor of *Industrial Medicine and Surgery*; died in Long Island College Hospital Sept. 2, aged 54, of myocardial infarction.

Wilkinson, Robert Johnson ⊕ Huntington, W. Va.; born in Lynch Station, Va., in 1888; Medical College of Virginia, Richmond, 1912; member of the founders group of the American Board of Surgery; past president of the Southern Medical Association, of which he was vice-president, Southeastern Surgical Congress, the Association of Surgeons of the Chesapeake and Ohio Railway, Cabell County Medical Society, and the Alumni Association of the Medical College of Virginia; president of the West Virginia State Medical Association in 1943 and chairman of the state committee on medical education, the procurement and assignment committee, and the fact finding and legislative committee; fellow of the American College of Surgeons; at the time of his death, chairman of the committee arranging the program for the annual meeting of the International College of Surgeons at White Sulphur Springs in 1954; a director of the World Medical Association; served in the first volunteer medical corps, U. S. Army, during World War I; for many years physician in charge of the Chesapeake and Ohio Railway Employes Hospital; affiliated with St. Mary's Hospital; head of Wilkinson Surgical Clinic; died Sept. 14, aged 65, of coronary occlusion.

Liva, Arcangelo ⊕ Los Angeles; born in Italy in 1887; Eclectic Medical College of the City of New York, 1912; specialist certified by the American Board of Ophthalmology and the American Board of Otolaryngology; fellow of the International College of Surgeons and the American College of Surgeons; for 25 years a member, and formerly president of the state board of medical examiners; past president of the Bergen County Medical Society; affiliated with Hackensack (N. J.) Hospital; attending bronchoscopist, Newark Eye and Ear Infirmary in Newark, where he was affiliated with the Presbyterian Hospital; consultant in ophthalmology and otolaryngology, Bergen Pines, Bergen County Hospital in Ridgewood; in 1935 was awarded the honorary degree of doctor of medicine by the University of Rome; died Aug. 12, aged 66, of cerebral hemorrhage.

Barnes, Frank Haslehurst ⊕ Stamford, Conn.; born in Mohawk, N. Y., June 17, 1872; New York Homeopathic Medical College and Hospital, New York, 1896; past president of Fairfield County Medical Society and the Stamford Medical Society; member of the American Psychiatric Association; member of the medical advisory board in Stamford during World War I; specialist certified by the American Board of Psychiatry and Neurology; formerly on the faculty of the New York Post-Graduate Medical School; medical superintendent of Dr. Barnes' Sanitarium; consultant in psychiatry at St. Joseph Hospital and Greenwich (Conn.) Hospital; consulting neurologist at Stamford Hospital, where he died Sept. 14, aged 81, of hypertension, coronary occlusion, and carcinoma of the prostate.

Young, Richard Hart ⊕ Omaha; born in Columbus, Neb., Jan. 28, 1904; University of Nebraska College of Medicine, Omaha, 1930; professor of neurology and psychiatry at his alma mater; specialist certified by the American Board of Psychiatry and Neurology; member of the American Psychiatric Association, American Psychopathological Association, and the Central Neuropsychiatric Association; affiliated with Methodist, Lutheran, Children's Memorial, Bishop Clarkson Memorial, and the University of Nebraska hospitals; died in University Hospital, Bellevue Medical Center, New York, Aug. 10, aged 49, of complications following surgery for Parkinsonism.

Blaisdell, Irl Hazard ⊕ Syracuse, N. Y.; born in Providence, R. I., March 10, 1911; Boston University School of Medicine, 1935; certified by the National Board of Medical Examiners; specialist certified by the American Board of Otolaryngology; member of the American Academy of Ophthalmology and Otolaryngology and the American Laryngological, Rhinological and Otological Society; clinical associate professor of otolaryngology at the State University of New York College of Medicine at Syracuse; affiliated with City Hospital, Hospital of the Good Shepherd, and Syracuse Memorial Hospital; died near Watertown Aug. 1, aged 42, when his automobile was struck by a train.

Baker, Walter Eugene ⊕ Des Moines, Iowa; Drake University College of Medicine, Des Moines, 1907; affiliated with Iowa Methodist, Iowa Lutheran, and Mercy hospitals; died Aug. 29, aged 77, of lobar pneumonia and Parkinson's disease.

Bateman, Wilbert Charles, Zanesville, Ohio; Starling Medical College, Columbus, 1897; past president of the Muskingum County Academy of Medicine; for many years a member and for seven years president of the board of education of Zanesville; formerly city health officer; on the staff of the Bethesda Hospital and the Good Samaritan Hospital, where he died Aug. 29, aged 86, of arteriosclerosis.

Bernheim, Ruth Grace, Cincinnati; Laura Memorial Woman's Medical College, Cincinnati, 1902; for many years affiliated with the Jewish Hospital, where she died Sept. 11, aged 73, of carcinoma of the ovary with metastases.

⊕ Indicates Member of the American Medical Association.

Borgen, Alfred Edwin, St. Paul; University of Minnesota Medical School, Minneapolis, 1946; served during World War II; died near Duluth Aug. 8, aged 32, of accidental drowning.

Brainard, Benjamin F. ⊕ Martin City, Mo.; College of Physicians and Surgeons of Chicago, 1886; College of Physicians and Surgeons, medical department of the Kansas City University, Kansas City, Kan., 1904; an Associate Fellow of the American Medical Association; served on the staffs of Menorah and St. Vincent's hospitals in Kansas City; died Aug. 28, aged 89, of chronic myocarditis.

Brooks, Cadmus Marvin ⊕ Little Rock, Ark.; College of Physicians and Surgeons, Little Rock, 1910; clinical professor of anesthesia at the University of Arkansas School of Medicine; member of the American Society of Anesthesiologists; affiliated with the Arkansas Baptist State Hospital, where he died Sept. 2, aged 70, of carcinoma of the colon.

Carrico, Carl C. ⊕ Houston, Texas; Baylor University College of Medicine, Dallas, 1928; served during World War II; died in the Veterans Administration Hospital Sept. 7, aged 52, of encephalomalacia and thrombosis of multiple cerebral arteries.

Cook, Edgar Baldwin, Rochester, N. Y.; New York Homeopathic Medical College and Hospital, New York, 1903; served during World War I; for many years associated with the Health Bureau as school physician and mental hygiene examiner; on the staff of the Genesee Hospital; died Aug. 20, aged 71, of arteriosclerosis.

Cowan, John Rice ⊕ Danville, Ky.; Harvard Medical School, Boston, 1894; fellow of the American College of Surgeons; affiliated with Ephraim McDowell Memorial Hospital; died Aug. 17, aged 81, of coronary occlusion.

Crowe, Robert Latta, Memphis, Tenn. (licensed in Tennessee in 1914); professor of pharmacology at University of Tennessee College of Medicine and in 1936 appointed dean of the school of pharmacy; died July 26, aged 65.

Cuneo, Peter Joseph ⊕ Bakersfield, Calif.; Cooper Medical College, San Francisco, 1911; for many years city health officer; died Sept. 1, aged 69, of cerebral hemorrhage.

Davis, Joseph Edward ⊕ Albion, Neb.; University Medical College of Kansas City, Mo., 1900; on the staff of the Boone County Community Hospital; died in Norfolk July 19, aged 79, of mesenteric thrombosis.

Deutsch, Isadore Herman ⊕ Oswego, Ill.; St. Louis University School of Medicine, 1925; affiliated with St. Charles Hospital, where he died Aug. 27, aged 56, of carcinoma of the lung.

Dyer, John H. ⊕ Warrenton, Mo.; Marion-Sims College of Medicine, St. Louis, 1892; for many years county coroner; died in St. John's Hospital, St. Louis, Sept. 5, aged 85, of arteriosclerotic heart disease and terminal pneumonia.

Eckhardt, Joseph Carl Augustus ⊕ Austin, Texas; University of Texas School of Medicine, Galveston, 1908; affiliated with Seton, Brackenridge, and Holy Cross hospitals; for many years physician for the Woman's Confederate Home; died Aug. 27, aged 70, of a heart attack.

Eyman, William George ⊕ Pittsburgh; University of Pittsburgh School of Medicine, 1903; fellow of the American College of Surgeons; on the staff of the South Side Hospital; died Aug. 30, aged 81.

Gano, Charles Harkness ⊕ Pittsburgh; College of Physicians and Surgeons, Baltimore, 1911; member of the Industrial Medical Association; died in the Presbyterian Hospital Aug. 13, aged 68, of cerebrovascular accident.

Gilbert, George Richardson, Omaha; Omaha Medical College, 1896; died Aug. 27, aged 79, of cerebral arteriosclerosis.

Giordano-Cortese, Modesto ⊕ San Francisco; Regia Universita di Napoli Facolta di Medicina e Chirurgia, Italy, 1916; served as an officer with the Italian Army during World War I; affiliated with Notre Dame Hospital and St. Mary's Hospital; died in Yountville, Calif., Aug. 18, aged 62, in an automobile accident.

James, Arthur Gregory Boswell ⊕ Bridgeport, Conn.; McGill University Faculty of Medicine, Montreal, Canada, 1927; on the staff of the Bridgeport Hospital; died Aug. 24, aged 57, of acute coronary thrombosis.

Klein, John ⊕ Chicago; Rush Medical College, Chicago, 1899; on the emeritus staff at St. Francis Hospital in Evanston, Ill., where he died Sept. 14, aged 83, of lymphosarcoma in the right axilla with metastases to the liver.

Lane, John David ⊕ Bennington, Vt.; Bennett Medical College, Chicago, 1909; an Associate Fellow of the American Medical Association; member of the New England Roentgen Ray Society; on the staff of the Putnam Memorial Hospital; died July 31, aged 73.

Lindsay, James Adams ⊕ Pittsburgh; University of Pittsburgh School of Medicine, 1909; chief of staff, St. John's Hospital; died Aug. 15, aged 69, of coronary occlusion.

Link, Joseph John ⊕ Mattoon, Ill.; Northwestern University Medical School, Chicago, 1920; fellow of the American College of Surgeons; served during World War I; for many years district surgeon for the Illinois Central and New York Central railroads; served as president of the staff at Memorial Methodist Hospital; a director of the Central National Bank; died in St. John's Hospital Aug. 29, aged 57, of hemachromatosis.

Mozley, Charles Almus, Albuquerque, N. M.; St. Louis College of Physicians and Surgeons, 1892; served as health officer of Sandoval County; died in Austin, Texas, Aug. 14, aged 81.

Norton, Alva C. ⊕ Rockwell City, Iowa; Rush Medical College, Chicago, 1895; died in Lutheran Hospital in Fort Dodge Aug. 18, aged 81, of carcinoma of the prostate.

Ragan, Romulus C. ⊕ Kansas City, Mo.; Medico-Chirurgical College of Kansas City, 1903; on the staff of the Trinity Lutheran Hospital; died in St. Luke's Hospital Sept. 8, aged 86, of acute cholangitis with hepatic abscesses.

Reinsberg, Karl ⊕ Mohawk, N. Y.; Philipps-Universität Medizinische Fakultät, Marburg, Prussia, Germany, 1923; president of staff of Ilion (N. Y.) Hospital; died July 30, aged 60, of coronary embolism.

Richardson, Anna Root Mann, Rochester, N. Y.; Boston University School of Medicine, 1901; for many years physician at Smith College in Northampton, Mass.; died in Rochester State Hospital Sept. 9, aged 75, of chronic myocarditis.

Schmidt, Florian Edward ⊕ Chicago; Northwestern University Medical School, Chicago, 1905; medical director of the Chicago Heart Association; formerly on the faculty of his alma mater; served on the professional staff of Lederle Laboratories, Inc., and later for nine years with Armour Laboratories; died Sept. 10, aged 69, of myocardial infarction and coronary sclerosis.

Scibetta, Samuel Louis ⊕ Erie, Pa.; University of Buffalo School of Medicine, 1917; fellow of the American College of Surgeons; at one time member of the school board; on the staff of Hamot Hospital and St. Vincent's Hospital, where he died Aug. 21, aged 60, of chronic leukemia.

Seyfried, Ernest A. N. ⊕ Nazareth, Pa.; Hahnemann Medical College and Hospital of Philadelphia, 1929; affiliated with St. Luke's Hospital in Bethlehem, Easton (Pa.) Hospital and Allentown (Pa.) Hospital; died Aug. 17, aged 49, of acute coronary occlusion.

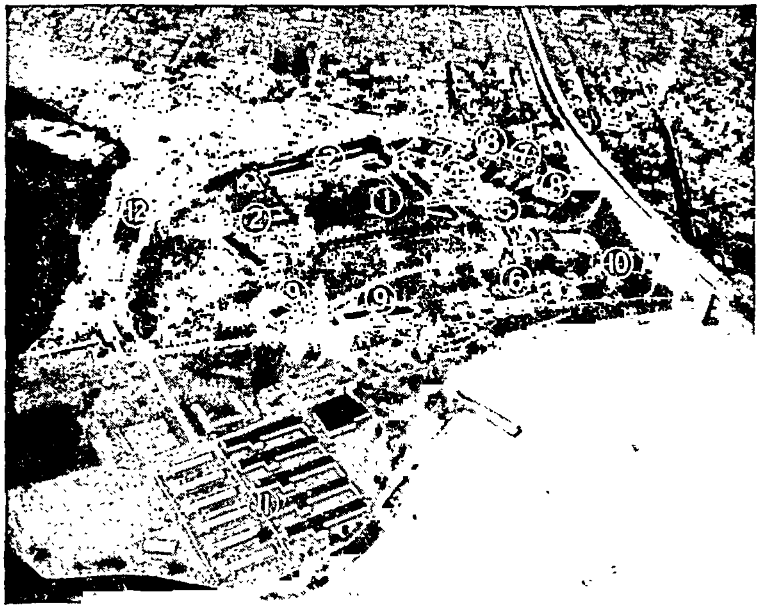
DIED WHILE IN MILITARY SERVICE

Campbell, James McLain ⊕ Alexandria, La.; University of Tennessee College of Medicine, Memphis, 1933; for a short time with the Mississippi State Board of Health; served on the staff of the Veterans Administration Hospital; entered the U. S. Army Medical Service as a lieutenant colonel on July 1, 1953; died Aug. 5, aged 43, of coronary thrombosis while at home on a three day pass.

GOVERNMENT SERVICES

NAVY

Naval Hospital at Chelsea.—The Naval Hospital at Chelsea, Mass., where on Oct. 12-14 an important symposium for civilian physicians, as well as military medical officers, was held, was closely associated with early events in the history of our country. The hospital overlooks the Mystic River and historic Charlestown, Mass., and from this point women and children gathered to witness the battle of Bunker Hill in June, 1775. Many of the wounded in that battle were taken across the river, where beneath the trees that shaded what is now the hospital grounds the women dressed the wounds of the victorious Revolutionary soldiers. The area on which the city of Chelsea is built at that time was known as Winnisimmet. The first public ferry in the country was operated in 1631 between Winnisimmet, Charlestown, and Boston, the Winnisimmet landing being on the hospital grounds at the site of the present boat landing. It was not until 1823, however, that the commissioners of naval hospitals purchased 115 acres of land for $18,000 as the site of the proposed Chelsea Naval Hospital, and not until 1832 did Congress appropriate funds for the construction of this hospital. On Jan. 7, 1836, the Chelsea Naval Hospital was completed and placed in commission. The three-story hospital had a capacity of 100 beds. On the anniversary of the 118th year of service of this hospital last June, the historical account of the hospital noted that in 1896 a telephone was installed along with a steam disinfector and that a small room was fitted as a bacteriological, chemical, and microscopic laboratory. The laboratory was reported as "complete including microscope." The first major crisis to confront the hospital came with the pandemic of influenza during World War I when, with the rapid influx of patients, the number of beds was increased to 1,142. The Chelsea Hospital facilities were made available in 1920 to the Veterans Bureau, and in the decade that followed, Veterans Bureau admissions increased until they represented 75% of the total admissions. Again during World War II, the number of patients increased from around 279, before Pearl Harbor, to 2,700 patients, four years later. With minor changes in its routine it was adequate during the recent Korean fighting for all types of admissions from the battle front. The Chelsea Naval Hospital today stands on a windy hill some 112 feet above sea level where it maintains constant vigil over the health of men and women of the United States Navy.



Aerial view of Chelsea Naval Hospital. 1. The main hospital. 2. Additional wards. 3. Women's and children's wards. 4. Auditorium. 5. Red Cross building. 6. Nurses' quarters. 7. Enlisted men's quarters. 8. Waves' quarters. 9. Officers' quarters. 10. Commanding officer's quarters. 11. Maintenance shops. 12. Storerooms.

Atomic Scientist Enters Army.—Dr. Maurice C. Fishler, head of the biological and medical sciences division of the U. S. Naval Radiological Defense Laboratory, San Francisco, has been ordered to military duty as a first lieutenant in the Medical Corps, U. S. Army. He reported for indoctrination at Brooks Army Hospital, Fort Sam Houston, Texas, the middle of October. Dr. Fishler joined the Navy laboratory in 1948 to organize the medical research program and has guided its activities ever since. For several years he has been a member of the Joint Panel on Medical Aspects of Atomic Warfare of the Research and Development Board.

PUBLIC HEALTH SERVICE

Dr. Daft Succeeds Dr. Wilder.—The appointment of Floyd S. Daft, Ph.D., as director of the National Institute of Arthritis and Metabolic Diseases, National Institutes of Health, was announced October 12 by the Surgeon General. Dr. Daft, acting director of the institute since the resignation of Dr. Russell M. Wilder last June, has been assistant director and chief of laboratory research since 1951 and a member of the scientific staff of the National Institutes of Health since 1937. He has conducted nutrition studies, particularly on the B vitamins, and his investigations have contributed much to the understanding of dietary deficiencies causing anemia, cirrhosis of the liver, and other metabolic diseases. He was a pioneer in the study of an unidentified substance later shown to be folic acid. Before coming to the National Institutes of Health in 1937, Dr. Daft taught and engaged in research work at Harvard, Yale, the Carlsberg Laboratories, Copenhagen, Denmark, and the University of Rochester.

Personal.—Dr. Joseph O. Dean, formerly associate chief of the Bureau of State Services, Public Health Service, has been named assistant to the medical director of the Bureau of Indian Affairs, Department of Interior. Dr. Dean was appointed to the regular corps of the Public Health Service in 1929.

Regular Corps Examination for Medical Officers.—The Department of Health, Education, and Welfare, U. S. Public Health Service, announces that competitive examinations for the appointment of medical officers to the Regular Commissioned Corps of the service will be held in various cities throughout the country Feb. 2-4, 1954. The examination will include professional written tests, an oral interview, and a physical examination. Completed applications must be in the Washington office by Dec. 24. Appointments will be made in the grades of assistant and senior assistant, equivalent to navy ranks of lieutenant (j.g.) and lieutenant, respectively. Entrance pay is $5,686 for assistant surgeons with dependents, and $6,546 for senior assistant surgeons with dependents. This includes incentive pay, rental, and subsistence allowances. For application forms and additional information, write to: Department of Health, Education, and Welfare, Public Health Service, att.: Chief, Division of Commissioned Officers, Washington 25, D. C.

FOREIGN LETTERS

BRAZIL

Postoperative Jejunal Ulcer.—An etymological study on nomenclature of recurrent ulcers following gastric surgery was made by Dr. Eurico Branco Ribeiro, director of the Sanatorio São Lucas of São Paulo. The term "peptic ulcer," widely used by European authors, is strongly rejected because the ulcer is not caused by peptic digestion. The terms "marginal ulcer" and "anastomotic ulcer" are objected to because the ulcer is not located at the anastomotic ring but generally appears in the jejunum, near the new stoma. The better designation is "postoperative jejunal ulcer."

As a rule the ulcer is believed to be localized in the region most exposed to sudden attrition of the alimentary bolus. The nervous system is assumed to play a part in the pathogenesis, as changes in this system were seen to result in dysfunctions capable of contributing to the development of the ulcer. According to Dr. Ribeiro, in 22 years 28 operations were performed for postoperative jejunal ulcer in a total of 1,367 patients who had previously been treated surgically, i. e., 2.04%. This incidence can be reduced to 1.76% if two patients who both underwent three operations for recurrent ulcer are omitted from the series. Once the alimentary flow has been diverted, resection of the ulcer is not regarded as essential when the excision may impair the blood supply to the small intestine. When possible, however, resection is performed. In some patients vagotomy was done as a supplementary procedure. In one patient who was treated with vagotomy only, the pains recurred within eight months. There were four deaths.

Acute Obstruction in Megacolon.—Megacolon is common in central Brazil. Recently Dr. Oscar Barros Serra Doria pointed out the high incidence (28%) of acute obstruction in patients with megacolon. He believes that volvulus of the sigmoid is rarely the cause of the obstruction. Usually there is accentuated angulation at the rectosigmoid junction. He does not open the abdomen but treats these patients by means of a rectosigmoidoscope and a rectal tube.

Amebic Granuloma in the Large Intestine.—Seven cases of amebic granuloma of the large intestine have been reported by Dr. Haroldo Sodré and Dr. Júlio Croce. They found only nine similar cases in the Brazilian literature although intestinal amebiasis is very prevalent in this country. In the differential diagnosis they consider cancer, tuberculosis, mycosis, syphilis, schistosomiasis, regional enteritis, and paracolic inflammatory tumors. They always use emetine, and in some cases they use penicillin after a course of emetine treatment. This treatment has been very successful, as it cured all the patients in their series. They believe that surgical treatment has proved to be ineffective.

ISRAEL

Seventh International Congress of the History of Science.—The Seventh International Congress of the History of Science opened in Jerusalem on Aug. 4, 1953, and was attended by delegates from all over the world. Prof. F. S. Bodenheimer, of the Hebrew University, as Congress president welcomed the delegates from abroad. He stressed the importance of the study of the history of science for Israel and for the world, and called attention to some of the ancient and medieval scientific relics of the region.

Prof. Ben Zion Dinur, minister of education and culture, delivered the main address at the opening session on "The Value of the History of Science for Public Education." He dealt with the particular qualities of the history of science as a historical science and as an educational subject. "None compares to this science in its potential of education toward the unity of human society, mutual love and international harmony. The history of science includes the history of human thought, the methods of human observations, the ways of formulating conclusions. It is therefore incomparable as a means of developing in the younger generation the ability of independent thinking, of spiritual steadfastness, of constructive criticism, and of moral courage. For there is no courage as worthy of praise and honour as a man's courage to think independently and not in mere imitation of the teachings or traditions of others," he said. Professor Dinur felt convinced that "everything a man acquires from the history of science, in the process of the development and growth of man's spirit of seeking, will be multiplied a hundredfold in the spirit of divine wisdom in man, in the spirit of brotherly love, and of moral courage and civic strength."

Prof. G. Sarton, president of the International Academy of the History of Science, discussed "Science versus the Humanities; the History of Science." He said that the greatest problem of our age is "how to reconcile science with the humanities, how to bridge the growing abyss between well-meaning but ignorant idealists on the one hand, and uneducated technicians on the other." The solution, suggested more than a century ago and still valid, is in the study of the generalities of science and particularly the history of science. Scientific training is absolutely necessary, yet utterly insufficient. A man must be a scientist and a humanist at one and the same time. The New Humanism is an attack on nonhumanized scientists whose success would defeat civilization; and on Western scholars who deprecate Eastern efforts. He pointed out the suitability of Jerusalem as a good place to speak of this, for it is really at the very edge of the Arabic and Asiatic worlds.

The medical section was devoted entirely to Jewish or biblical topics. Dr. M. Sherman, president of the Israel Medical Association, discussed the history of medicine in Palestine in the 19th century. There was almost no medical care until 1838, when the European powers, to protect themselves, imposed on the Ottoman Empire a "Sanitary Administration" for purposes of establishing quarantine. The first hospital was founded in Jerusalem in 1843 by the London Society for the Promotion of Christianity among the Jews and the Rothschild Hospital, the first Jewish one, in 1854.

Dr. S. Muntner discussed the life and work of R. Shabbetai Donnolo (10th century), the first European medical writer in Hebrew. Dr. J. O. Leibowitz spoke on the life and work of R. Jacob Zahalon (17th century). Dr. S. H. Blondheim, of the Hadassah Hospital and Hebrew University Medical School, identified the epidemic among the Israelites at Beth Shemesh (I Samuel vi) as the first recorded epidemic of pneumonic plague. It is likely that this disease developed after the Israelites came into contact with the Philistines who suffered from the bubonic type of plague (Black Death) when the latter returned the captured Ark of the Covenant.

Physicians in Israel.—Israel had 3,717 physicians (including 710 women) and 903 dentists (including 359 women) at the end of 1952, the Central Bureau of Statistics and Economic Research revealed in a report based on a census of physicians and dentists. Germany heads the list of countries from which Israel has recruited its medical manpower, 992 physicians and 278 dentists having been trained in German universities and medical schools. More than a third of the physicians (1,278) are concentrated in Tel Aviv; Jerusalem is second in the number of physicians (603) and Haifa third (516). More than a third of the dentists (379) are also concentrated in Tel Aviv; Haifa is second in the number of dentists (127) and Jerusalem third (86). Less than half of the physicians (1,591) are general practitioners, and the remainder are specialists. Internal diseases and children's diseases head the list of the specialties.

The items in these letters are contributed by regular correspondents in the various foreign countries.

New Hadassah Departments in Plastic Surgery and Psychiatry.—The Hadassah Medical Organization will shortly establish departments in plastic surgery, neuropsychiatry, and rehabilitation, Dr. Kalman Mann, director of Hadassah Medical Organization, told the press recently. Prof. M. Rosenbaum of Cincinnatti University has arrived in Jerusalem to consolidate psychiatric work at present being carried out in the Hadassah University Medical School and to plan the new department, which is partially financed by the Schleider Fund, available in instalments of $15,000 annually.

Three physicians sent by Hadassah for training in plastic surgery, due to return soon from the United States, are to form the nucleus of a surgical team. They are Dr. Z. Rosen, specialist in nose and throat operations, Dr. J. Lewin-Epstein, specialist in jaw operations, and Dr. Z. Neumann, specialist in general operations.

The elements of the third new department, covering occupational therapy, physiotherapy, and general rehabilitation, are already in existence and have now been unified under the direction of Dr. E. Adler. Visualizing the hospital as a center of specialized therapy, Hadassah intends to provide daily health care through its local clinics, with the medical student learning from both central and peripheral institutions.

A building to house both a health clinic and cultural activities is to go up at the Beit Mazmil Community Health Center thanks to a donation of $100,000. This prototype health center, catering to 500 immigrant families in a Jerusalem suburb, benefits from the wider specialized care provided by the new hospital departments. Next year, medical students will begin to benefit from the community health center as a pilot plant for all-embracing family care. Instead of dealing with a few isolated cases, each student will be able to observe a number of family cases and thus relate medical problems to their environment. Dr. Mann said that after consulting with the Minister of Health, Mr. Y. Serlin, he had managed to coordinate the Hadassah teaching program with that of the government and other health agencies in Jerusalem.

ITALY

Convention of Rheumatology.—The seventh national convention of the Italian Society of Rheumatology was held in Florence last June under the chairmanship of Professor Villa. The first topic, prevention of rheumatic disease, was discussed by Professor Dogliotti, the director of the University of Turin Institute of Medical Pathology. Clinical observations and epidemiological studies of the last years have made clearer some aspects of the pathogenesis of rheumatic fever. The disease is preceded by respiratory infection due to some strains of hemolytic Streptococcus A in persons who are, in general, constitutionally predisposed to the disease and who live in an environment that favors its development. However, the pathogenetic mechanism that links the streptococcic infection to the complex tissue alterations characteristic of the rheumatic process (swelling and fibrinoid degeneration of the collagen, increased capillary permeability, and Aschoff's granuloma) and that are responsible in their evolution for the severe cardiac complications is not clear.

Although the Streptococcus infection recurs rather frequently in rheumatic patients, often producing clinical flare-ups of the disease, once the rheumatic process has begun it assumes a relatively autonomous course. This is continuous and progressive and is marked by flare-up periods that are improperly called relapses. These relapses are caused not only by the streptococcic infection but also often by other circumstances, such as physical overwork, changes of climate, diet intemperance, and emotional disturbances, that alter the reactive balance of the organism.

Long clinical experience has proved that sulfonamides and penicillin administered in repeated courses prevent the streptococcic infection and therefore the rheumatic disease. This type of prophylaxis can be applied to the many persons who are predisposed to the disease in particular circumstances only, as in epidemics of streptococcic infections. It is mainly indicated for prevention of the so-called relapses. When possible, penicillin should be preferred to the sulfonamides in that it is more active in causing the streptococci to disappear from the mucous membranes of the respiratory tracts without the development of penicillin-resistant strains of the bacteria. In addition, it is less likely to cause such dangerous toxic reactions as granulocytopenia.

Because of the current opinions about the pathogenesis of rheumatic disease, the use of tonsillectomy as a prophylactic measure is criticized. The intervention seems to be indicated only in the forms of chronic suppurative tonsillitis due to hemolytic Streptococcus in which penicillin does not provide a complete and definitive cure of the process. When the rheumatic disease is already in progress, tonsillectomy does not prevent its progress but only minimizes the probability of the so-called relapses.

Considering the great importance of the person's organic constitution for the development of the disease and the many etiological factors that may play a part in the relapses, anti-infectious prophylaxis is not sufficient. The patient's resistance may be increased by improving his diet and his environmental conditions. Besides this, the altered reactivity that is the basis for the pathogenesis of the disease may be corrected with the so-called antirheumatic therapy, namely, with salicylates, aminopyrine (Pyramidon), corticotropin, and cortisone. This therapy has an immediate beneficial effect on the acute manifestations, and, by preventing the exudative phase, it may limit the permanent secondary damages, especially those to the heart. Its preventive action has not been sufficiently proved, however, and studies are now in progress.

Organized and therefore better prophylaxis could be carried out by specialized centers that, in addition to establishing the best prophylactic method, should also be able to make a diagnosis in doubtful cases. A principal duty of the centers should be to spread information about the disease among physicians and the public. They should emphasize the diagnostic criteria and fundamental principles of therapy and prophylaxis, thus making known all the available means of prevention of severe damage to the heart. One of the main obstacles to the fight against rheumatic disease is the meager knowledge of the disease itself and the unsound conviction that it is impossible to prevent it or to influence its evolution and prognosis.

The second topic dealt with specific and nonspecific aspects of immunity in rheumatology. The immunologic study of acute and chronic rheumatic diseases is limited, mainly because of the lack of knowledge about the cause of the disease. Most research workers have admitted the existence of a varying reactivity that is almost unanimously identified as a state of sensitization; this concept, based on clinical data, has been supported despite the lack of exact etiological data.

A study was made to evaluate the conclusions reached in the clinical field and to establish the specific and nonspecific serum reactions of patients with rheumatic disease. Two criteria of research were followed: (1) determination of the specific factors (antigens and antibodies) and nonspecific factors (complement, conglutinin, and opsonin) of the known reactions of immunization, and (2) interpretation of the relation of the action of the antirheumatic drugs to immunization.

Considering the great importance of the nonspecific factors in the antigen-antibody reaction, the speaker studied the complex colloidal alterations of the plasma in rheumatic diseases in relation to the immunologic phenomena. The high antistreptococcic agglutinations that he observed in rheumatic disease was ascribed to an increase of the agglutinating factor of normal serum rather than to the existence of a corresponding antibody titer. The property that rheumatic serum has for nonspecific agglutination confirms the hypothesis that it is really a potentiation of the agglutinins that normally exist before the onset of the disease and not of recently formed immune antibodies.

Immunization reactions became negative following physical modifications of the serum that did not alter the true antibodies. The presence of protein C and similar substances that are not of an antibody nature confirmed the soundness of this concept, which finds the most typical paradigm in the Waaler-Rose reaction. All the tests that the speaker performed proved that the complement titer is increased during the active phase of rheumatic disease.

Considering the activity of antirheumatic drugs from the immunologic standpoint, these studies proved the inhibiting action of sodium salicylate and phenylbutazone (Butazolidin) on agglutination and hemolysis. Moreover, the doses of sodium salicylate that are used in therapy diminish the activity of the complement. Cortisone and corticotropin inhibit the specific and nonspecific factors of immunization. This activity follows a corresponding action on the synthesis of proteins.

The speaker examined also, with particular reference to the aspects of immunization, the favorable effects of jaundice and pregnancy on the rheumatic processes. As for jaundice, he cited the diminution of the complement activity as the expression of a deficiency in the synthesis of plasma proteins. Speaking of the good effects of pregnancy on the disease, he said that during pregnancy experimental anaphylactic shock does not appear, probably because of a decrease of the complement titer. Although it is certain that jaundice and pregnancy influence immunization by differing means, the relation of these processes to the pathogenesis of rheumatic diseases remains to be established.

LONDON

Nonresident Hospital Nurses.—The Standing Nursing Advisory Committee has responded to a request from the Minister of Health for advice and information on the question of whether there were any factors inherent in the work of a hospital nurse that made it necessary or desirable that she live in the hospital in which she worked or in nearby accommodation provided by the hospital authority. The committee considered that, subject to certain reservations in regard to particular grades, there were no factors inherent in a hospital nurse's work that made "living in" necessary. The most important reservations concerned the matron, the ward sister in charge of a ward for acute conditions, and the student nurse, especially in her first year of training. The committee also pointed out that the accommodation provided by a hospital authority for its resident nurses need not necessarily take the form of the traditional nurses' home; a useful alternative would be the acquisition of suitable large houses that could be rented to the nurses as single rooms or apartments.

"The King's Fund."—One of the most interesting, as well as one of the largest, medical charities is the King Edward's Hospital Fund for London, which was founded in 1897 by King Edward VII (then Prince of Wales) for the "support, benefit or extension of the hospitals of London." Its policy has always been to temper charity with caution, and it has never given grants to hospitals or associated institutions unless there was some guarantee that the money would be wisely spent. Such provisos, however, have never been of a negative or obstructive character, because the fund has always been willing to advise the hospital concerned on how to overcome the defects, whether administrative, accounting, nursing, or staff, and so be eligible for the grant that would be forthcoming when evidence was produced that the money would be wisely spent. This sage policy, originally initiated at the express wish of King Edward himself, has had two beneficial effects. One is that over the years the fund has accumulated a wealth of experience in hospital administration, hospital accounting, and nursing organization that has proved to be of value to the hospitals, not only in London but also throughout the country. The other is that the capital resources of the fund now amount to between 6 and 7 million pounds sterling. Expenditures during 1952 totalled £413,760. To outline all the activities of the fund would be impossible, and therefore only a few of its more important, or interesting, activities can be mentioned. These are of intrinsic interest, and in addition show the way in which the voluntary spirit is leavening the hard core of impersonal bureaucracy that now threatens to make the health services of the country very impersonal.

Hospital gardens are a new addition to the list of hospital activities subsidized by the fund, and during last year £3,000 was allotted to hospitals in the East End of London for this purpose. The initiative in this direction came from the hospitals themselves, and all that the fund has done has been to follow its traditional policy of encouraging and facilitating original and deserving ideas produced by hospitals. In order to ensure that the allotted sum is wisely spent, the fund has enlisted the help of both the Royal Horticultural Society and the curator of the Chelsea Physic Graden. An outstanding example of the initiative that the fund wished to encourage was the hospital in Shoreditch in the East End. This hospital has no grounds at all, but a yard has ingeniously been turned into a flower bed by raising a stone wall two feet high round the centre of the yard and filling the enclosed space with earth. Elsewhere in the hospital, flat roofs have been supplied with large boxes of earth. Thus, in the words of the fund's annual report, "though the hospital has no genuine soil, gardens have been provided for the patients, where they can sit and enjoy the sunshine."

Homes for the aged sick have been a special interest of the fund for several years. A sum of £350,000 has been set aside for the provision of 12 homes for the aged sick; these homes are to be under the wing of the hospital service of the National Health Service and are to be used for the accommodation of elderly patients until they become well enough to leave the care of the hospital service. The aim is to overcome the difficulty of so many hospital beds being occupied for long periods by elderly patients who are well enough to get up but not well enough to go home or to a residential home for old persons. Seven of the homes are now open, and all are successful. They are all attached to hospitals interested in old persons. This is considered essential: "The home must be linked with a hospital where the medical staff is actively interested in the care of the elderly. It is only in these hospitals that patients are found who need, as part of their treatment when they are on the road to recovery a stay in such a home." All of the homes are managed by voluntary organizations, mainly by the British Red Cross Society, while the local regional hospital board is responsible for maintenance costs. The medical care in the home is provided by the physician responsible for the elderly in the associated hospital.

Hospital accounting is a subject in which the fund has long and varied experience. It therefore accepted with alacrity an invitation from the Minister of Health to "carry out a complete unit costing of a small number of representative hospitals." This investigation has now been completed, and the principal recommendations are that (*a*) a departmental system of accounting be adopted, based on the units of organization of a hospital, e. g., departments, wards, and services; (*b*) budgets be prepared on the departmental system; and (*c*) all of the accounts be itemized in an income and expenditure account and a balance sheet prepared in accordance with recognized accounting principles. It is claimed that the adoption of this departmental system is the answer to the criticisms that, under the present system, it is not possible to ascertain the cost of maintaining any one of the numerous departments of a modern hospital and that the unit "cost per occupied bed" is futile for purposes of comparison between hospitals. "Under the departmental system a separate account is set up and maintained for each department. of the hospital organization and within each such account the expenditure is grouped under significant headings appropriate to the work of the department. Finally, the departmental expenditure is reduced to a cost per unit of service, such units being determined solely by the nature of the service rendered in each case. As, under the new system proposed, the budget is also departmentalized, the budgeted unit cost of each department becomes the 'yardstick' against which its actual cost will be measured." Hospital accounting, it is pointed out, is not mere bookkeeping; it is "an integral part of hospital administration. . . . It is the return obtained for expenditure and not the expenditure itself that is of vital importance, and the real problem of hospital finance, and its control, is to maintain productivity of expenditure at a maximum. A highly centralized rigid financial control of one side only of the equation—payments—is quite inadequate and inappropriate as, under it, success comes to be measured more by the degree to which expenditure is kept within the defined limits, than by the return obtained for the expenditure."

This section of the report concludes with some comments that are probably applicable elsewhere, as well as in the United Kingdom: "During the past half century hospitals have vied with one another in establishing new departments, in opening new clinics and in the over-elaboration of equipment, bringing about duplication and overlapping. In doing so, capital has often been wasted and maintenance costs have increased to unprecedented levels. Has not the time arrived for a backward swing of the pendulum; the time to resolve the balance of functions; the time for hospitals to ask not 'how much more can we get to spend' but 'how much can we reduce our demands?'"

Treatment of Poliomyelitis in Hospital.—A recent memorandum from the Ministry of Health makes recommendations for the arrangements to be made for the treatment of poliomyelitis in hospitals. Wherever practicable, poliomyelitis should be treated in hospital units with a highly trained and experienced team equipped to deal with the disease. Some concentration of cases in such units is essential, if the teams are to have sufficient work to give them the experience they require. The team should include a surgeon or physician competent to deal with respiratory complications and, most important, a senior resident of at least registrar grade, specially trained for this work, who would be available to be called in at a moment's notice to deal with the sudden changes that are a characteristic of the disease. Orthopedic advice should also be available at the unit, together with facilities for physiotherapy in paralytic cases. Nurses should have had training in the management of patients in artificial respirators as well as the commoner techniques. The concentration of cases in suitable units would, of course, be somewhat limited by the undesirability of long ambulance journeys during the acute phase of the disease. Facilities for isolation are more readily provided in hospitals for infectious diseases than in general hospitals, whereas the facilities for treatment are most readily available in general hospitals. Since hospitals for infectious diseases are usually included in groups with general hospitals and are now increasingly used in part as general hospitals, it should be practicable to provide the necessary treatment facilities in any large hospital for infectious diseases chosen to house a poliomyelitis unit. Failing this, a special unit might be provided in a general hospital, if adequate arrangements for isolation are practicable.

When a properly equipped and staffed special unit is not available within a reasonable distance, it may be necessary to arrange special separate isolation accommodation in other hospitals, e. g., general or orthopedic. The hospital selected should be within an hour's ambulance journey, preferably well within this limit.

Except in an emergency, acute cases of poliomyelitis should not be nursed in cubicles attached to children's wards, and all multiple bed isolation wards should have the customary 12 ft. (3.66 m.) between bed centers and a separate staff (if possible, living apart from the other nurses). Acute cases of poliomyelitis among the hospital staff should be segregated. No persons with confirmed cases of poliomyelitis should leave hospital within three weeks of admission. Poliomyelitis patients should not, however, be allowed to return to a susceptible community of children, such as a school, children's home, or day nursery, until six weeks after the onset of the disease.

PARIS

Congress of the International Association for Public Welfare.—The International Association for Public Welfare met on Sept. 21-26, 1953. The agenda included the following topics: recent developments in the field of public welfare, family allowances, evaluation of disablement, and relations between the institutions for public welfare and the medical profession. Permanent technical commissions met from Sept. 14 to Sept. 21. The medicosocial commission dealt with the following points: medical secrecy in public welfare legislation, and polypharmacy. The Commission for Mutual Insurance studied the possible means of contributing to the setting up of systems of social protection in backward countries by means of mutual insurance.

SPAIN

Antituberculous Crusade.—When the problem of tuberculosis in Spain is regarded from the economical and humanitarian points of view, it is evident that the losses the country suffers from this disease are enormous. While the monetary value of human lives cannot be determined, estimations can be made on the basis of the amount of money given to the family of those who are insured by the Compulsory Insurance for Travelers when the insured die in an accident. The amount given to the family for the death of an insured person, regardless of profession, sex and age, is 40,000 pesetas (11 pesetas equals about $1.00). On this basis the annual rate of 30,000 deaths from tuberculosis, represents a loss of 1,200 million pesetas. Adding to this amount the expenses during illness and the loss productive work, a figure of 1,500 millions of pesetas a year lost as a result of tuberculosis is reached. The budget of the National Antituberculous Department has constantly increased from 15 million in 1940 to almost 332 million in 1953.

The amount of money appropriated in the last year is fantastic. When the National Antituberculous Department was established in 1936, a bed in a sanatorium could be made available for 5,000 pesetas per bed and the daily expenses of hospitalization were 5 pesetas. At present, however, the approximate expenses for establishing a bed are 50,000 pesetas and the daily expenses of hospitalization are 28.56 pesetas. At present 280 more dispensaries are needed on the basis of one dispensary for every 100,000 persons. Administration of new antituberculous drugs has not reduced the number of sanatorium beds required. Patients receiving the new antituberculous drugs improve very much but they are not entirely cured and must remain in the sanatoriums.

It is difficult for certain groups and the heads of industrial centers to understand that the main purpose of the National Antituberculous Department is to organize as many sanatoriums and dispensaries as possible, to have in reserve the necessary technical personnel, and to administer the general educational crusade, all of which require the collaboration and economical resources of industrial corporations. For such collaboration and aid, these centers are given a certain number of beds in proportion to the aid they give. Efforts will be made to obtain close collaboration between administrators of health insurance and the National Antituberculous Department. While with the methods used at present these groups and the patients do not receive any actual benefit, they will do so as soon as the groups understand better the needs and privileges of each other.

Several sanatoriums are to be opened in the very near future in the following places: San Sebastian, Ferrol, Castellón de la Plana, El Escorial, Guadarrama, Bejar, and Linares. The sanatorium of Linares is for patients with silicosis. Sanatoriums are under construction in the following places: Logroño, Valladalid, Zaragoza, Burgos, Cadiz, Ciudad Real, Córdoba, Granada, Guadalajara, Huelva, León, Lugo, Alicante, Almería, Badajoz, Navacerrada, Madrid-Tablada, Soria, Teruel, Toledo, Las Palmas, and Tenerife. The efforts carried out in Spain in the antituberculous crusade are commendable. The cost of over 1,000 million pesetas has been provided during a time when the country was not very prosperous. The first and most enthusiastic crusader of this campaign is Dr. José A. Palanca, who is a professor of hygiene of the faculty of medicine of Madrid, the president of the National Antituberculous Department, head of public Health and chief of the Department of Sanitation of the Army, the Navy and the Air Force.

Medical Writing.—The Association of Spanish Physicians has organized a contest for writers and artists with the Premio Blanco award for this year. The award of 5,000 pesetas will be given to the author of the best work on art, history, or literature in relation to medicine. All physicians are invited to participate. Articles should be sent with duplicate typewritten copies, double spaced, before Jan. 1, 1954. They may be written in Spanish, Portuguese, French, Italian, English, German, or Latin. They should be sent with the name and address of the author in a sealed envelope to the Secretaria del Premio Blanco Soler, Fuencarral 113, Madrid, Spain.

CORRESPONDENCE

CHLOROPHYLL DERIVATIVES

To the Editor:—Since my original report on the use of specially prepared chlorophyll derivatives called "chlorophyllins" for the control of breath and body odors in 1950, much controversial literature has appeared. Your editorial is the first comment published by THE JOURNAL that has given my work any fair consideration. There are, however, several mistakes in this material that are the result of quoting persons whose information is outdated or who are misinformed.

According to Von Dobeneck, Willstatter called the mixture of saponification products of chlorophyll, which still contained complex magnesium, chlorophyllins before he identified the components. This term has since been discarded in favor of a more precise description of the saponification products. The removal of magnesium from "chlorophyllin" does not lead to pheophorbides but to chlorins, i. e., chlorin e_6 and rhodin g_7. Most commercial products contain copper complexes of chlorine. The manufacture of these commercial products is in the true sense a very complex procedure, and the analysis of the mixture of chlorins deriving from chlorophyll a and b has been an extremely difficult task, on which Von Dobeneck plans to report soon. P. Rothemund also states that only the magnesium salts of chlorophyll can be called chlorophyllins. I agree that one must insist on the use of correct nomenclature; however, I also believe that this can be accomplished only by discarding obsolete terms and using the universally accepted nomenclature of Hans Fischer. One of your correspondents recently put forth a blanket indictment on all deodorization tests but did not make a specific reference to any particular published test. He is apparently also unfamiliar with Harrisson's paper (read before the Society of Cosmetic Chemists, December, 1952, and published in the *Journal of Cosmetic Chemists,* March, 1953), which completely answers his criticism that professional odor experts cannot transfer their techniques to the examination of breath odors. Dr. Harrisson's paper outlines in detail the care taken to train testers to recognize certain concentrations of different odors on the "stinker" breath.

Brocklehurst in his experiments used preparations of unknown character, and unless he used materials and techniques that are accepted as standard in other papers he cannot be regarded as refuting anyone's work in this field. In in vitro tests there must be intimate contact between chlorophyllins and odors to be neutralized, not just their emanations, as in his bell experiments. Corwin himself is mistaken in his report, because in none of my papers have I tried to explain how chlorophyllins work, and I admit to not knowing. In vitro I know that chlorophyll has no oxygen liberating power and certainly none when ingested. Its systemic action cannot be laid to a bacteriostatic property, because not enough is ingested for this purpose.

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To the Editor:—We believe an editorial in THE JOURNAL, Aug. 29, entitled "Chlorophyll as a Deodorant" contained inaccuracies that should be corrected.

1. A source (K. V. Thimann: *personal communication*) was given to the effect that "commercial water-soluble chlorophyll preparations . . . are believed to be copper or nickel pheophytins. . . ." This is incorrect, since the water-soluble chlorophyll derivatives used in commercial preparations do not contain the pheophytin fraction.

2. Reference was made to a statement attributed to E. R. Weaver of the National Bureau of Standards to the effect "we have no reason whatever to believe that chlorophyll ever has anything to do with deodorization." This reference, taken out of context, failed to make clear that Weaver's statement applied only to chlorophyll-containing products used as air fresheners. The Bureau of Standards, March 27, 1953, authorized the following statement: "The statement 'we have no reason whatever to believe that chlorophyll has anything to do with deodorization,' appearing in circular 491 of the National Bureau of Standards was intended to relate only to the deodorization of air. The context of the statement clearly indicates the intended meaning. While it was known to the Bureau that chlorophyll and chlorophyll preparations have been applied directly to diseased and injured tissues, the Bureau has no data on such applications and did not intend to express or imply an opinion, either favorable or unfavorable, as to their merits."

3. References were made to a report by Brocklehurst in the *British Medical Journal* and to his conclusions on the deodorant properties of "chlorophyll." A review of the Brocklehurst paper shows that he did not characterize the material used in his work; therefore, since it cannot be duplicated, there is no basis on which to evaluate his findings. Also, either Brocklehurst's description of the odorous substance (methylmercaptan) is in error or he did not produce the material in the fashion he reported, because methylmercaptan is not produced from the starting material he used. If the odorous substance was not methylmercaptan, there is no assurance that the chemical indicator he used would have indicated a change in the odorous substance.

Finally, Brocklehurst employed primarily a nitrogen atmosphere for his experiments. There have been some deodorizing effects reported in the water-soluble chlorophyll derivatives in a nitrogen atmosphere, but these have not been of the same proportion as the effects reported in air. The use of a nitrogen atmosphere minimized the investigator's chances of recording a positive result under normal conditions. Also, in refutation of Brocklehurst's report there has been work done by various American investigators at the University of Alabama, Purdue University, and elsewhere that seem to have been more thoroughly done and whose findings were contrary to those of Brocklehurst.

Perhaps your original editorial was directed at the deodorant properties, as claimed, by various tablets, mouth washes, tooth pastes and similar "chlorophyll"-containing products. However, we believe it should not imply a question of the deodorizing and other properties, within the claims allowed by the Council on Pharmacy and Chemistry, of the ethically promoted Chloresium ointment and solution, which products carry the Council's Seal of Acceptance. These claims have been allowed and these products are accepted for advertising in THE JOURNAL.

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To the Editor:—In a letter "Chlorophyll as a Deodorant," published in your June 27 issue, Prof. K. V. Thimann comes to the conclusion that chlorophyll derivatives have no significant deodorant capacity. I have been working on this problem for more than a year. I presented a paper on the subject at the Federation Meetings in April in Chicago, and I think the data have been ignored by Professor Thimann.

We have investigated the deodorant capacity of well over 70 chlorophyll derivatives. In all instances we used an objective testing method. The procedure reported at the Federation of Societies for Experimental Biology, April, 1953, describes a recirculation system that proved suitable for large samples. Since that time, however, we have found it desirable to check chlorophyll derivative samples of approximately 30 mg. For this purpose we constructed a large water bath in which we could rotate 250 cc. glass tonometers at a constant temperature. In most of our work we used hydrogen sulfide as the odoriferous gas. The results so obtained were then checked in several instances using mercaptans with identical results.

The procedure is as follows. Thirty milligrams of the chlorophyll derivatives are dissolved in 1 cc. of distilled water. This solution is then drawn by vacuum into the clean dry tonometer. The tonometer is then evacuated to a standard pressure and attached to a bag containing approximately a 5% hydrogen sulfide mixture in air. The valve of the tonometer is opened, permitting a predetermined volume of the gas mixture to flow into the evacuated tonometer. The tonometer is then placed in the water bath at 34 C and slowly rotated for 30 minutes. At the end of that time the gas in the tonometer is pulled through an iodine solution and then back-titrated with thiosulfate. Since the concentration of hydrogen sulfide in the tube before contact with the chlorophyll derivative was known, it can be compared with the value obtained after contact. The difference between the two values, that is, the percentage reduction in hydrogen sulfide, is taken as a measure of deodorant capacity.

The procedure described above was designed to give approximately 50% reduction with a standard chlorophyll derivative because we wanted to test the effectiveness of different samples. Allow me to point out that the more potent derivatives give as much as a 70% reduction in the concentration of the hydrogen sulfide upon immediate contact with the chlorophyll solution. I think these experiments indicate conclusively that the chlorophyll derivatives are capable of deodorizing, since they effectively alter odoriferous gases such as hydrogen sulfide and the mercaptans.

We also carried out a few in vivo experiments in which we determined the concentration of scatol in the feces of dogs given chlorophyll derivatives orally. In every instance there was a significant decrease in scatol concentration, which supports the dramatic clinical findings in colostomy patients.

There is no question but that the subjective procedures that are in current use for evaluating deodorants leave much to be desired, and there is also no question but that chlorophyll products have been promoted in very dubious ways. However, when the chlorophyll derivatives are made available at the right place, in the right form, and in adequate concentration they do function, I believe, as extremely effective deodorants.

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BUREAU OF LEGAL MEDICINE AND LEGISLATION

MEDICOLEGAL ABSTRACTS

Foods and Drugs Differentiated By Intended Use.—The defendant was charged with a violation of the medical practice act in that she had administered drugs while holding a license to practice one of the limited branches of medicine. From a judgment of conviction, the defendant appealed to the Supreme Court of Ohio.

After examining and treating a patient by chiropractic methods, the defendant advised the patient about her diet and said that she should drink fennel and sage tea during the day, that she should drink only boiled water or Minnehaha Water, that certain vegetables were infested with spray poison, and that she should drink either raw milk or goat's milk. The defendant then gave the patient two little packets of pills, an order blank with a designation GE 8, and a list of vegetables that could be eaten without washing. The two packets of pills contained only lactose, or milk sugar, with a small amount of common salt, and the preparation GE 8, purchased by the patient from the Basic Endocrine Sales Company, contained "cholesterol, cerebrocides and lacithin, brain substance material along with some vegetable fiber."

The defendant contended, among other things, that the trial court erred in charging the jury that "fennel and sage are used in the United States Pharmacopoeia as drugs and, therefore, come within the definition of drugs," and that it would take judicial notice that fennel and sage were not foods. The defendant also claimed as error the action of the trial judge when he answered in the affirmative the jury's interrogatory as to whether fennel and sage used as tea are still considered drugs.

The Supreme Court pointed out that there was no evidence with reference to anything in either the official "United States Pharmacopoeia" or the official "National Formulary." Furthermore, it was admitted that the 1950 edition of the "United States Pharmacopoeia" failed to disclose the listing of fennel, although it was listed in the "National Formulary," and that sage was not listed in either the pharmacopoeia or the formulary. Nevertheless it was contended by the state that the judge could take judicial notice of the contents of these publications and that he could inform himself in any way that may seem best to him concerning subjects of which he may take such notice.

Assuming, said the Supreme Court, that the trial court may take judicial notice of what is listed in the pharmacopoeia and formulary, it is still not sufficient under the definition of "drug" contained in the General Code, that the article merely be recognized in the pharmacopoeia or formulary. To make such an article a "drug" it must, in addition, be intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in man or animals. To constitute any article a "drug" that is not so listed, it too must be intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in man or animals. Therefore, continued the Supreme Court, the charge that an article is a drug, simply because it is listed in the pharmacopoeia or formulary, without qualifying it by its intended use, is an incorrect statement under the law of Ohio, and the court committed prejudicial error in so charging. There is no question that certain articles may be either food or drugs, depending on their intended use.

The state contended that the defendant practiced medicine when she advised the patient to drink only boiled water or Minnehaha Water and alleged that distilled water is listed in the latest edition of the "United States Pharmacopoeia." Assuredly, said the court, boiled or spring water would not of itself be a drug under the statutory definition unless it was intended for the uses outlined in the statute.

The defendant insisted that all the advice and articles that she gave to the patient either concerned or were articles of food, and that there was no evidence to contradict this. In fact, the trial court indicated to the jury that peas, lima beans, corn, potatoes, carrots, raspberries, blueberries, bananas, rye bread, raw sugar, goat's milk, raw milk, and Minnehaha Water are foods, although fennel and sage are not. As we have said, concluded the Supreme Court, there is not a scintilla of evidence to dispute the statements of the defendant that all the articles with which the present case is concerned are foods, and there is not a scintilla of evidence that they were intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease.

In view of the fact that there was positive testimony that all articles given or recommended to the patient were foods, that they were not intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease, and that the articles in question can not be said to be food as a matter of law, the Supreme Court held that there was an entire lack of proof to sustain the verdict. Accordingly the judgment of conviction against the defendant was reversed. *State v. Winterich, 105 N. E. (2d) 857 (Ohio 1952).*

Hospitals in General: Injury to Patient Following Collapse of Adjustable Chair.—The plaintiff filed suit for personal injury suffered by her while a patient in the defendant hospital and alleged the injury was caused by the defendant's negligent failure to furnish a safe appliance and equipment for her use. From a judgment for the plaintiff, the defendant appealed to the supreme court, appellate division, that reversed the judgment. The plaintiff, therefore, appealed to the Court of Appeals of New York.

The plaintiff entered the defendant hospital as a patient after an accident in which she had suffered a fracture of the neck of the right femur where it enters laterally into the right hip socket of the pelvic bone. When surgery had accomplished the pinning of the fractured bone in apposition and in good alignment and a period of convalescence had passed, the plaintiff was permitted at times to sit in a wheel chair to which two separately operated leg rests were attached that, when not in use, hung down on either side of the chair front. When either leg rest was in use, it could be raised to a horizontal position at the level of the chair seat and thus afford support for a disabled leg when extended. When so elevated, the leg rest could be held stationary in the desired position by a ratchet, or notched locking device, on the under side. The function of the locking device was described by the defendant's medical director as "a safety measure on it so that, if undue pressure is placed upon that leg rest, with the vertical leg rest out like that, it will go down. The reason for that is, if you don't have a safety valve release, and you put undue pressure on it way out like that, you would throw the whole thing clear way forward."

Immediately before the accident in the defendant hospital, the plaintiff was seated in a wheel chair of the type described. Her left leg was flexed so that her left foot rested on a lower cross piece that served as a foot support. Her disabled right leg was extended and rested on the right leg rest, then elevated to a position almost horizontal with the chair seat. According to her testimony, which stands uncontradicted, the plaintiff, in an effort to alter the position of her body as a means of gaining a more comfortable posture, raised herself slightly by pressing down on the arms of the chair and by exerting slight pressure on her left foot. As she did so, the right leg rest "went down" tipping the chair forward slightly and causing her right foot to strike the floor in such a manner as to break the bone again at the right hip socket and to dislodge from its imbedded position the surgical nail that had been inserted to hold the fractured femur in place.

We are required, said the Court of Appeals, to consider the evidence in the aspect most favorable to the plaintiff and to accord to her the benefit of every favorable inference that can reasonably be drawn from it. We cannot, therefore, agree with the appellate division that ". . . the plaintiff failed to prove facts from which the jury could find any actionable negligence on the part of the defendant hospital." In addition to evidence to which reference has been made, there was testimony by the plaintiff's husband that while he was in his wife's hospital room on the night before her injury, he noticed a wheel chair near her bed and, while examining it casually, he observed that, when he "took hold" of the right leg rest and "set it in on a notch and pressed on it," it would "snap down" with very little pressure and that the left leg rest held better. Although the plaintiff was lying in her bed when her husband was "fussing" with the wheel chair, as she termed it, and although the chair was the one involved in the accident that befell her the next day, there is no evidence that before the accident she was informed or had reason to know that the right leg rest when elevated would drop down under light pressure. In fact, there is no evidence that at the time the right leg rest dropped down the plaintiff had exerted upon it even slight pressure.

As a patient, said the Court of Appeals, the plaintiff could rightfully expect from the defendant hospital the exercise of reasonable care in the selection and maintenance of equipment furnished for her use. Such standard of reasonable care required of the defendant that the wheel chair provided for plaintiff would be in a safe condition—as to structure and maintenance—for the use to which it was to be put. On the record before us, said the Court of Appeals, the decisive question was whether there was any substantial evidence that the proximate cause of plaintiff's injuries was a failure by the defendant properly to perform the administrative act mentioned above. We think, the court concluded, that there was such evidence which presented a question of fact for determination by a jury.

Accordingly the judgment in favor of the defendant hospital was reversed and the cause was remanded for a new trial. *Holtfoth v. Rochester General Hospital, 105 N. E. (2d) 610 (New York 1952).*

Indemnity Insurance: Extent of Coverage of Malpractice Insurance Policy.—This was an action for a declaratory judgment to determine the obligation of the plaintiff insurance company to one of its policy holders. The trial court held that no obligation under the policy existed, but this finding was reversed by the court of appeals. The company then appealed to the Supreme Court of Ohio.

A Mrs. Hirssig commenced an action against Michota, a chiropodist, to recover damages for personal injuries attributed to his negligence. She alleged that she was a patient of Michota and went to his office to receive treatment for a foot ailment; that she entered one of the treatment rooms and, following his instructions, attempted to seat herself in a metal hydraulic chair designed for the occupancy of patients; and that, after she placed her left foot on the chair and attempted to raise herself into it as she had done on previous occasions, the chair suddenly rotated to the left, causing her to lose her balance and fall to the floor, whereby she was injured. It was charged that Michota was negligent in failing to "lock" the chair before directing Mrs. Hirssig to get into it, in failing to give warning that the chair was unlocked and would rotate if stepped upon, and in failing to maintain the chair in a safe condition for use by patients.

Michota held a policy of liability insurance in the American Policyholders Insurance Company, which provided that the company would defend each claim and suit "arising out of the practice of the insured's profession as specified herein, and to pay the expenses incurred in the defense of such claim or suit in addition to the applicable limit of liability of the policy." It also provided that the insurance company would pay on behalf of the insured all sums that the insured becomes obligated to pay because of injuries resulting from professional services rendered or that should have been rendered. The insurance company contended that, under the policy, its liability either "to defend" or "to pay" was strictly limited to those injuries that might arise out of the actual rendition of professional services by the insured and that the allegations of the petition in the case of Hirssig v. Michota did not disclose an incident within the protection of the policy. Michota, on the other hand, contended that the language of the policy is in broad and comprehensive terms, and that, in conformity with the well-established and universally recognized rule, any doubt or ambiguity with respect to the meaning of the phraseology employed in the policy must be resolved in favor of the insured and against the insurer, which prepared and issued the policy and collected a premium therefor, and, further, that the injury described by Mrs. Hirssig in her petition did bring the case within the policy provisions.

This court, said the Supreme Court, is of the opinion that the insurance company is liable under its policy. The policy is entitled "Professional Liability Policy" and nowhere in the language relied on is the liability of the insurer restricted to "malpractice" or, by the wording of the policy, is liability thereunder confined to a failure on the part of the insured to exercise that standard of professional skill in the treatment of patients prescribed by law. When Mrs. Hirssig entered Michota's office and in a treatment room thereof began to follow his precise instructions in preparing herself for his professional ministrations, the relationship of patient and physician was clearly established. Her claimed injuries, according to the allegations of her petition, were due to the negligence of the chiropodist in failing to maintain apparatus employed by him in the practice of chiropody in a safe condition for her use as a patient. The injury described was one "arising out of the practice of the insured's profession." Maintaining the treatment chair in a proper and safe condition for the accommodation of patients was a service or duty directly connected with the practice by Michota of his profession as a chiropodist. The insurer, concluded the Supreme Court, is therefore obligated to defend the action of Mrs. Hirssig against Michota and, in the event of a verdict and final judgment against him, the insurer is liable to pay, on the doctor's behalf, such sum as may be within the limits of the policy. The judgment of the court of appeals against the plaintiff insurance company was therefore affirmed. *American Policyholders Insurance Company v. Michota, 103 N.E. (2d) 817 (Ohio, 1952).*

MEDICAL LITERATURE ABSTRACTS

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Orientation in Therapeutics of Papilloma of Larynx. R. C. L. Amarante. —*p. 94.*

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Pinealocytoma with Meningitis. M. Pražić and N. Grčević.—p. 104.

Neurotoxicity of Streptomycin Group of Drugs.—Winston presents clinical and investigative data on cochlear and vestibular complications resulting from streptomycin and dihydrostreptomycin therapy. Damage to the cochlear and vestibular mechanisms caused by the streptomycin group of drugs is always bilateral, and the deafness is of the perceptive type. Streptomycin frequently damages the vestibular apparatus and rarely damages the cochlear apparatus, while dihydrostreptomycin frequently causes deafness as well as severe damage to the vestibular apparatus. The incidence of these complications is directly proportional to the size of the daily dose of the drug and to the number of days it is administered. With streptomycin, deafness is usually preceded by tinnitus as a warning symptom. It practically never occurs with daily doses of less than 3 gm. Deafness and vestibular damage are more abrupt with dihydrostreptomycin, and these complications may become severer or be entirely delayed for some time after therapy has been discontinued. If the complications are slight or moderate, the hearing impairment and vestibular dysfunction may ultimately improve. Audiometry and vestibular turning tests should be carried out from time to time during therapy and again within six months after therapy has been discontinued. While streptomycin appears to have a much more frequent neurotoxic effect upon immature rats than adult rats and while it has been shown to cross the placenta, no neurotoxic effect upon the fetus has thus far been noted. Pregnancy, apparently, does not contraindicate the use of streptomycin. In Ménière's disease streptomycin does not eliminate the recurrent attacks of vertigo, but renders them much less severe. Because it attacks the central vestibular mechanism and possibly other brain structures as well, streptomycin should not be used for this purpose.

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Investigation of Radium Deposition in Human Skeleton by Gross and Detailed Autoradiography. W. B. Looney and L. A. Woodruff.—p. 1.

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Recent Advances in Knowledge of Mechanism, Diagnosis and *Treatment* of Head Injury. E. S. Gurdjian and J. E. Webster.—p. 214.

Ophthalmologic Diagnosis of Meningiomas of Sphenoidal Ridge. T. P. Kearns and H. P. Wagener.—p. 221.

Limitations in Use of Gamma Globulin in Poliomyelitis.—Hammon points out serious limitations to the use of gamma globulin in prophylaxis of poliomyelitis. These are due in part to the fact that gamma globulin is an immunizing agent giving only temporary, passive protection. More important are the difficulties presented by the disease itself. Only 1 of 100 or more infections with poliomyelitis virus is clinically recognized. Undiagnosed, primary infection leads to multiple secondary infections among which may be one with clinical manifestations permitting diagnosis. This epidemiological concept leads to what may actually be the most effective use of gamma globulin: It should be used in the family at the time of exposure of the family members. When this occurs through inapparent infection, it cannot be recognized, but the primary infection in the family must frequently be manifested as an undiagnosed case. The severer a poliomyelitis epidemic becomes, the higher will be the proportion of undiagnosed, febrile illnesses that are actually poliomyelitis. Injection of family members at this time should be prior to the onset of approximately 75% of all secondary cases, *as in measles.* Expecting modification of the involvement in the earliest cases and prevention of most of the later ones, use of gamma globulin in such families should give excellent results. Epidemiological and immunologic evidence *strongly supports the* hypothesis that this is a more selective method of administra-

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tion than indiscriminate and essentially simultaneous mass immunization of all children in all epidemic communities. The more selective approach to families, based on diagnosis or suspect diagnosis by a physician, could be handled largely by physicians in private practice with referral of others to a health department clinic. Indiscriminate, mass community injection would include not only the same children wastefully injected under the suspect case contact method because the wrong index diagnosis had been made but also all other children in all families in which not even a suspect illness occurred and would include many families in which known and suspect cases had occurred weeks before and had probably left the family solidly immune. Lack of direct, experimental evidence should not restrict administrative practice from doing what epidemiological and immunologic evidence strongly suggests is reasonable.

Sarcoidosis in Armed Forces.—The occurrence of sarcoidosis is reported in 17 members of the United States Army in Europe. White exceeded Negro patients in a ratio of 9 to 8. Presenting symptoms were chest pain in four patients and hilar adenopathy, with or without pulmonary infiltration in five. Chills, fever, anorexia, nausea and vomiting, sore throat, edema of legs were observed occasionally. Exclusive of the usual lymphadenopathy, there was a small number of physical findings, such as swollen painful joints, edema of legs, and enlargement of liver and spleen. No patient had uveoparotid, skin and bone involvement. Sarcoidosis is recognized as a generalized reaction to some unknown stimulus. The complicating factor of many known stimuli showing the same pathological response makes its diagnosis complex. Involvement cannot be determined clinically on history and physical examination, since there may be no symptoms referable to the organ and no enlargement or tenderness, although biopsy may show pronounced involvement. Liver needle biopsy, which propably provides representative evidence of sarcoidosis and is relatively harmless, was made in 15 patients and yielded positive results in 11, which again emphasized the frequent early involvement of this organ. Liver function tests showed rather poor coordination with positive biopsy results. Persistently abnormal laboratory evidence should be followed by repeated biopsies, especially if there is a consistently positive and rising sulfobromophthalein (Bromsulphalein) retention. The variability of the course of sarcoidosis and poor response to most therapeutic agents cloud its prognosis and treatment.

American Journal of Obstetrics & Gynecology, St. Louis

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*Cervical Carcinoma in Situ: Difficulties in Differential Diagnosis. J. Hoffman, D. M. Farell and G. A. Hahn.—p. 354.
Estrogen Metabolism in Human Pregnancy: Study with Aid of Deuterium. W. H. Pearlman, M. R. J. Pearlman and A. E. Rakoff.—p. 370.
Male Hormone in Treatment of Menopause. R. I. Walter.—p. 375.
Simplified Method for Sterilization of Female. T. N. Evans.—p. 393.

Pregnancy and Subacute Bacterial Endocarditis.—Questionnaires were sent to 300 hospitals, each with 2,000 or more deliveries per year. Replies received from 102 revealed a total of 113 cases of subacute bacterial endocarditis preceding or complicating pregnancy. In addition, seven case reports were collected from the British literature. The report is based on 120 cases, 85 with healed subacute bacterial endocarditis and 35 complicated by and cured of this disease during pregnancy. The maternal mortality for the series was 6.6%. Pregnancy following healed subacute bacterial endocarditis is contraindicated for the first six months following the clinical cure. During this period, lack of stabilization of the cardiac reserve results in an increased incidence of congestive failure and an increased maternal mortality rate. If pregnancy occurs during this phase, therapeutic abortion without tubal ligation is indicated during the first trimester. The advisability of childbearing is determined by a critical evaluation of the underlying cardiac lesion in cases in which subacute bacterial endocarditis has been cured for periods longer than six months. The incidence of recurrence during pregnancy is similar to that noted in the healed, nonpregnant person. The treatment of subacute bacterial endocarditis is as successful in the pregnant as in the nonpregnant patient. Early diagnosis is the key to successful treatment. The prenatal care and conduct of labor are similar to those in any patient with heart disease. Cesarean section should be performed only for obstetric indications. Routine intrapartum and postpartum use of antibiotics is advocated to prevent the recurrence of the disease.

Differential Diagnosis of Carcinoma in Situ.—There is agreement that cervical carcinoma passes through an intraepithelial phase before it begins to invade the stroma. The morphological characteristics of carcinoma in situ include marked anaplasia, hyperchromatism, polynucleosis, disparity in the size, shape, and staining quality of the nuclei, disturbance in the nuclear-protoplasmic ratio, increased mitotic activity, abnormal mitotic figures, loss of polarity, loss of layering and disorderly arrangement, and an intact basement membrane. With apparently so clear-cut a picture, it might be expected that this entity would offer little difficulty. In practice, however, there is considerable confusion as to the proper application of the term "carcinoma in situ" and consequent uncertainty as to the management of lesions so designated. This is largely attributable to the facts that the epithelium rarely fulfills all the cytological criteria and the lesions have been seen to regress or at least not to progress to invasive state, though untreated. The authors summarize observations on 4,152 cervical biopsy specimens obtained between 1930 and 1946. This number included nine invasive carcinomas with previous biopsy specimens, among which one true intraepithelial carcinoma was found. The findings among 4,187 cervical biopsy specimens obtained between 1946 and 1952 are presented, with particular emphasis on six cases diagnosed "carcinoma in situ" and followed by repeat cervical biopsies without treatment other than the repeat biopsies, which, to date, showed the lesions to be reversible. The desirability of a policy of watchful waiting in the doubtful case, particularly if the patient is young, and the comparative safety of such a policy are stressed. The "in situ" problem is likely to continue to plague the gynecologist. Findings among more than 8,000 cervical biopsy specimens support the conservative point of view, which maintains that true intraepithelial carcinoma is an exceptional finding with the limited diagnostic facilities at our disposal today. It is hoped that future research will make it possible to recognize beginning cervical carcinoma with certainty and to distinguish it from the benign carcinomimetic lesions that cause considerable confusion.

American Journal of Psychiatry, New York

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American Journal of Surgery, New York

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Id.: II. Presence of Bartonella Bacilliformis in Peripheral Blood of Patients with the Benign Form. A. Herrer.—p. 645.

Id.: III. Experimental Infection of Squirrels. A. Herrer.—p. 650.

*Histoplasmin and Coccidioidin Testing in Philippine Tuberculosis Hospital. C. Halde and A. C. Reyes.—p. 655.

Testing with Histoplasmin and Coccidioidin in a Philippine Tuberculosis Hospital.—Studies were made on 824 patients in a tuberculosis hospital in the Manila area. Most histoplasmin surveys have been made along with tuberculin surveys. Since most of the Filipino patients on whom this study was conducted had demonstrable acid-fast bacilli in their sputums, tuberculin testing was not done. None of the 824 patients showed a reaction to coccidioidin, but 26 patients (3.15%) had a reaction to histoplasmin. Each reacting patient was retested two or three times and gave a consistent reaction. In the endemic areas for coccidioidomycosis in California, progressive coccidioidal granuloma with a high mortality rate has been found to develop in some Filipinos. Therefore, the absence of reactors to coccidioidin in this survey indicates that coccidioidomycosis is probably not present in the Philippines.

Am. Practitioner & Digest of Treatment, Philadelphia

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*Comparative Study of Streptomycin and Dihydrostreptomycin in Pulmonary Tuberculosis. S. S. Cohen, L. Johnsen, M. R. Lichtenstein and W. J. Lynch.—p. 229.

*Comparative Study of Streptomycin and Dihydrostreptomycin in Pulmonary Tuberculosis. S. C. F. Mahady, F. L. Armstrong, F. Beck and others.—p. 238.

Streptomycin and Dihydrostreptomycin in Pulmonary Tuberculosis.—A cooperative study for a controlled clinical appraisal of streptomycin and dihydrostreptomycin in the treatment of tuberculosis was carried out in eight hospitals. Of 294 patients with pulmonary tuberculosis who were treated in hospitals in Minnesota, North Carolina, Illinois and California, according to the plan, 145 were given streptomycin and 149 dihydrostreptomycin. One gram of streptomycin or dihydrostreptomycin in a single daily intramuscular injection plus 12 gm. of *p*-aminosalicylic acid was given orally in divided doses. The standard duration of treatment was 120 consecutive days plus or minus one week. Follow-up observations were continued for a minimum of six months. Results showed that both streptomycin and dihydrostreptomycin are valuable agents in the chemotherapy of amenable forms of tuberculosis in properly selected patients. It was not possible to determine any significant difference in the therapeutic efficacy of the two drugs. When administered in combination with *p*-aminosalicylic acid, neither type of streptomycin was associated with the emergence of a significant incidence of drug-resistant infection. Vestibular toxicity, which generally occurred relatively early in the course of treatment, was more frequently observed with streptomycin. Auditory toxicity, which tended to occur relatively later, was more frequently due to dihydrostreptomycin. Although usually ranging from subclinical to moderate in degree, the auditory disturbance can be of serious proportions. It can be progressive or it may appear belatedly after chemotherapy has ceased. High tone (audiometric) loss or complaint of sustained high-pitched tinnitus is the first indication of side-effects and should always be considered significant. Allergic responses to streptomycin were not infrequent and were occasionally severe. Allergic reactions were rarely observed when dihydrostreptomycin was employed.

Comparative Study of Streptomycin and Dihydrostreptomycin.—Of 141 patients with pulmonary tuberculosis admitted to four New York State tuberculosis hospitals which participated in the cooperative study reported in the same issue of this journal, 73 received dihydrostreptomycin and 68 streptomycin. The dosage of streptomycin or dihydrostreptomycin was 20 mg. per kilogram of body weight per day, rather than the 1 gm. dose per day used in the other four hospitals. The patients also were given 12 gm. of *p*-aminosalicylic acid orally daily. A small number of patients received only the basic 120 consecutive days of chemotherapy (±7 days), and the vast majority received drug therapy for longer periods. No difference in the therapeutic efficacy of streptomycin and dihydrostreptomycin was discernible when they were administered for 120 days and when the results were evaluated at that time. No significant difference was observed in the frequency of emergence of drug-resistant strains, which with either drug was less than 8%. The small percentage of patients in each original group who were still sputum positive after one year of treatment emphasizes the impropriety of drawing conclusions about the drug resistance studies with respect to the two drugs. Ototoxicity of the two drugs is of considerable importance. Vestibular disturbances occurred with either drug, but were more frequent, of greater severity, and often of earlier occurrence with streptomycin. Auditory disturbances were relatively uncommon with streptomycin and, when present, were usually less severe. Auditory disturbances are more to be expected when dihydrostreptomycin is used. They were usually mild or slight in severity when the drug was given for only 120 days. They were of greater severity and frequency when administration was prolonged beyond six months of daily treatment. The auditory disturbances occasionally progressed even after therapy was stopped, or they appeared some time after the conclusion of chemotherapy. The earliest changes of ototoxicity detected with either drug were usually tinnitus and/or high-tone loss of relatively mild degree.

Arkansas Medical Society Journal, Fort Smith

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Substrate Utilization by Ehrlich Mouse Ascites Carcinoma Cells. R. W. McKee, K. Lonberg-Holm and J.-A. Jehl.—p. 537.

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"Initial Foci," a Special Group of Minimal Tuberculosis, Prognosis and Treatment. E. Hedvall.—p. 148.
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*Intralobar Pulmonary Sequestration. G. Boyd.—p. 162.
Complications of Enzymatic Debridement in Pulmonary Tuberculosis with Bronchopleural Fistula. L. W. Jones, S. H. Dressler, J. Denst and J. B. Grow.—p. 173.
*Cavitation Within Bland Pulmonary Infarcts. P. H. Soucheray and B. J. O'Loughlin.—p. 180.
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Clinical Problem of Infected Cystic Disease of Lung. R. H. Meade and R. A. Rasmussen.—p. 205.
Prevention of Iodism in Bronchography by Use of ACTH: Case Report. F. R. Park, R. T. Cronk and G. E. Cronk.—p. 219.
Evaluation of Middlebrook-Dubos Hemagglutination Test in Tuberculosis. R. M. Howard, A. G. Brees, M. G. Henderson and R. S. Berk.—p. 226.

Intralobar Pulmonary Sequestration.—Six cases of a congenital lung anomaly of teratological and clinical interest are reported in three boys and three girls. The anomaly consists of a portion of a displaced lung tissue in the chest cavity with hypoplastic alveoli and dilated bronchi that give the lung its honeycombed or cystic appearance. This displaced lung is the recipient of a systemic vascular supply usually from the aorta. It has been referred to as intralobar sequestration since Price's paper on the first case of this type diagnosed at operation in 1948. Of the author's six cases some were diagnosed preoperatively and the others by examination of the specimen after excision and by the finding of an aberrant artery when the portion of the lung was removed. The condition is probably due to the amputation of a primordial lung bud by an aberrant artery occurring in the 4 to 14 mm. embryo. Clinical findings consisted of cough with little or no sputum and recurrent bouts of fever and were occasionally accompanied by hemoptysis. The radiographic changes demonstrating the true nature of the case are a mass often of considerable density, *at times homogenous and cystic areas usually visualized in* it or in nearby portions of the lung. The mediastinum is in the midline. The bronchogram usually shows a mass into which the opaque contrast medium does not penetrate; occasionally it may enter for a short distance. The demonstration of a complete bronchial tree, diseased or otherwise, extraneous to the mass, is important. Attention to this detail will prevent removal of a mass and leaving behind bronchiectatic portions of the lung with the false assumption that a complete excision was made. The only effective therapy is surgical removal of the abnormal lung and any infected normally developed lung. Three cases are cited in which the whole lung was involved in the process. The question was raised whether such a result could not ensue rather than agenesis when earlier more massive portions of the bronchial tree are amputated in the embryo.

Cavitation Within Bland Pulmonary Infarcts.—Of 100 cases of pulmonary infarction reviewed by the author, the occurrence of pulmonary infarction due to bland emboli showing roentgenologic evidence of pulmonary cavitation is reported in four men and one woman between the ages of 26 and 64. It was established that cavitation within a pulmonary infarct might occur in the absence of pyogenic abscess formation. This phenomenon of aseptic necrosis with cavity formation is unusual and is significant only in that it should be recognized as one of the sequelae of pulmonary infarction. Mere presence of pulmonary cavitation did not seem to be a grave prognostic sign. Antibiotic therapy apparently controls infection sufficiently so that these necrotic infarcts may heal without surgical treatment. The diagnosis of pulmonary infarction could be made much more frequently by relying on the recognized clinical and roentgenological signs of the condition.

GP (J. Am. Acad. Gen. Practice), Kansas City, Mo.

7:1-168 (July) 1953

ACTH and Cortisone in Treating Blood Disorders. I. H. Manning Jr. —p. 34.
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Hawaii Medical Journal, Honolulu

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Third Generation Syphilis. C. V. Caver.—p. 448.

Iowa State Medical Society Journal, Des Moines

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Journal of Applied Physiology, Washington, D. C.

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Secretion of Electrolytes in Thermal Sweat. T. T. Amatruda Jr. and L. G. Welt.—p. 759.

Reliability of Metabolism Measurements by Closed Circuit Method. F. L. Harmon.—p. 773.

Physical Properties of Human Lungs Measured During Spontaneous Respiration. J. Mead and J. L. Whittenberger.—p. 779.

Lung Volume Restriction, Hypoxia and Hypercapnia as Interrelated Respiratory Stimuli in Normal Man. J. C. Mithoefer, C. D. Stevens, H. W. Ryder and J. McGuire.—p. 797.

Comparison of Relationship of Respiratory Minute Volume to pCO_2 and pH of Arterial and Internal Jugular Blood in Normal Man During Hyperventilation Produced by Low Concentrations of CO_2 at 1 Atmosphere and by O_2 at 3 Atmospheres. C. J. Lambertsen, R. H. Kough, D. Y. Cooper and others.—p. 803.

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Journal Clin. Endocrin. & Metab., Springfield, Ill.

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Journal of Clinical Nutrition, Allentown, Pa.

1:267-342 (May-June) 1953

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Intravenous Treatment of Pernicious Anemia with Vitamin B_{12}. L. M. Meyer, R. McInerny and N. D. Ritz.—p. 299.

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Journal of Experimental Medicine, New York

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Observations Concerning Production and Excretion of Cholesterol in Mammals: X. Factors Affecting Absorption and Fate of Ingested Cholesterol. M. Friedman, S. O. Byers and E. Shibata.—p. 107.

Variation in Functional Power of Human Sweat Glands. V. P. Dole and J. H. Thaysen.—p. 129.

Effect of Ketone Bodies and Other Metabolites on Survival and Multiplication of Staphylococci and Tubercle Bacilli. R. J. Dubos.—p. 145.

Intracellular Forms of Pox Viruses as Shown by Electron Microscope (Vaccinia, Electromelia, Molluscum Contagiosum). W. H. Gaylord Jr. and J. L. Melnick.—p. 157.

Journal of Infectious Diseases, Chicago

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Antibacterial Effect of Elemental Sulfur. L. Libenson, F. P. Hadley, A. P. McIlroy and others.—p. 28.

Directed Leucocyte Migration in Response to Infection and Other Stimuli. S. S. Elberg and P. Schneider.—p. 36.

Reduction of Inorganic Substances by Yeasts: I. Extracellular Reduction of Sulfite by Species of Candida. W. J. Nickerson.—p. 43.

Relationship of Antigenic Characteristics of Streptococci and Specific Antibody Responses Following Streptococcal Infections. R. W. Quinn, C. V. Seastone and R. W. Weber.—p. 57.

*Role of Laundry in Recontamination of Washed Bedding. B. D. Church and C. G. Loosli.—p. 65.

Relation of Tricarboxylic Acid Cycle to Bacterial Infection. L. J. Berry and R. B. Mitchell.—p. 75.

Action of Mucin in Promoting Infections: Effect of Previous Injection of Mucin and of α Tocopherol in Peanut Oil. H. P. Lambert, H. Smith and J. Richley.—p. 93.

Influence of Strain, Sex and Age of Mice on Infection with Plasmodium Berghei. J. Greenberg, E. M. Nadel and G. R. Coatney.—p. 96.

Studies on Respiratory Metabolism of Balantidium Coli. M. Agosin and T. von Brand.—p. 101.

Immunologic Characterization of Mucinolytic Enzyme of Vibrio Cholerae. K. E. Jensen.—p. 107.

Recontamination of Washed Bedding in Laundries.—Church and Loosli describe bacteriological studies that were carried out in two laundries (one hospital and one commercial). The air, wash and rinse waters, and textiles before washing and after rinsing and ironing were examined to determine the source of organisms found in the laundered materials. It was found that the laundry processes were efficient in removing bacteria from the fabrics during washing but that the materials became recontaminated during water extraction in the spin dryer or while hanging in the laundry to dry. This was shown by the fact that the air, during the sorting of linen and other activities, became highly contaminated with bacteria that settled out on woolen blankets hanging in the laundry and on fabrics at the folding table. In addition, large numbers of air-borne bacteria were drawn through the spin dryers during the process of water extraction and impinged on the washed textiles. Although the ironing process killed large numbers of these organisms, many survived. The surviving organisms were mainly nonhemolytic alpha streptococci and Micrococcus albus and aureus, which are potential human pathogens. It is not inconceivable that so-called "clean linen," which has become recontaminated with air-borne organisms dispersed from unwashed bedding, may be the source of initiating serious infections when placed again on hospital beds. The authors discuss measures to prevent the recontamination of washed bedding.

Journal of International College of Surgeons, Chicago

20:1-132 (July) 1953

*Multivalvular Heart Disease and Simultaneous Surgical Correction. H. E. Bolton, C. P. Bailey, W. L. Jamison and K. V. S. Rao.—p. 1.

Gas Cysts of Intestine: Report of Case. L. H. Appleby.—p. 11.

*Percutaneous Femoral Artery Aortography: Its Use in Evaluation of Retroperitoneal Masses. E. C. Peirce II.—p. 16.

Tuberculosis of Mammary Gland. W. J. Moore and J. F. Hamilton. —p. 29.

Traumatic Cataract Surgery in Children: Needle-Hook Technic. O. R. Wolfe.—p. 38.

Preserved Rib Cartilage: Satisfactory Foreign Body Implant to Reconstruct Microgenic Chin. L. W. Eisenstodt.—p. 47.

Developmental Abnormalities of Head and Neck. W. G. McEvitt.—p. 54.

Surgical Diseases of Biliary Tract. R. C. Giles.—p. 70.

Management of Hemorrhage from Genital Tract During Late Pregnancy, Labor and Puerperium. R. J. Pieri.—p. 77.

Bronchoscopic Resuscitation of the Newborn. J. J. Donlon.—p. 94.

Gastric Malignant Disease. R. H. Abrahamson.—p. 99.

Method for Clinical Study of Common Bile Duct After Choledochostomy. J. A. Sterling and R. Goldsmith.—p. 106.

Multivalvular Heart Disease and Simultaneous Surgical Correction.—Bolton and associates operated on 843 lesions of the mitral valve and on 74 patients with aortic stenosis. The 74 patients with aortic lesions included 28 with associated mitral valvular lesions that were treated concomitantly. The authors discuss the techniques utilized for mitral insufficiency, such as mitral commissurorrhaphy or valvular suturing. In some cases of mitral valvular disease, stenosis and insufficiency are associated. In such instances the commissurotomy is done first. The regurgitation may diminish owing to this valvular mobilization to such a point that valvular suturing is not necessary. This is determined by palpating the regurgitant jet that strikes the finger in the left atrium during each ventricular systole. In the estimation of these authors 12 to 15 cc. per heartbeat is the upper limit of regurgitation that can be readily tolerated. When necessary, the valvular suturing is carried out after commissurotomy. The early attempts at aortic commissurotomy consisted of inserting a dilator through the wall of the left ventricle and advancing the instrument to the level of the aortic valvular ring. The dilator was then expanded in order to dilate the valvular orifice. The dilating mechanism was one which expanded in an elliptic form. There was a tendency for the dilated portion to slip out of the valvular orifice, which resulted in an inadequate dilation. This instrument was abandoned when the Bailey aortic dilator was developed, which proved to be very satisfactory. When there is coexisting mitral valvular and aortic valvular disease, the problem of which lesion should be treated first is baffling. If there is mitral obstruction present and this is relieved, the persistence of aortic obstruction will probably result in left ventricular engorgement if the aortic obstruction is not relieved in short order. The authors generally do the mitral operation first. If one's experience in the treatment of aortic stenosis is somewhat limited, it might be wise to perform the aortic commissurotomy first. Then, if it becomes necessary to abandon further operation at this time, the mitral procedure can be performed at a later date. The authors state that of the 28 patients subjected to concomitant treatment of multivalvular heart disease 6 died. Of the 22 survivors, 20 were improved.

Percutaneous Femoral Artery Aortography for Evaluation of Retroperitoneal Masses.—Evaluation of retroperitoneal masses is frequently difficult. Arteriography, venography, and retroperitoneal oxygen injection can increase information about such masses. Arteriography is the most important of these, and can be done either by direct translumbar puncture of the aorta or by various catheterization methods of introducing radiopaque dye into the abdominal portion of the aorta. These methods of catheterization utilize surgical cut-down on the femoral artery, which is not only difficult and time consuming but also involves danger of thrombosis of the femoral artery. Peirce used the percutaneous femoral artery approach to catheterize the abdominal portion of the aorta, thus making practical a simple, accurate, and versatile second method of abdominal aortographic investigation. The method allows accurate injection of a contrast medium with the patient in any position. It is fairly readily learned and is economical of personnel and equipment.

Journal of Investigative Dermatology, Baltimore

20:401-490 (June) 1953

Antibiotics and Their Action on Pathogenic Fungi: I. Penicillin and Streptomycin. F. Raubitschek.—p. 401.
Erythromycin Ointment in Treatment of Pyodermas. H. M. Robinson Jr. and I. Zeligman.—p. 405.
Treatment of Granuloma Inguinale with Erythromycin. H. M. Robinson Jr. and M. M. Cohen.—p. 407.
Zirconium-Pyribenzamine Cream for Prophylaxis of Rhus Dermatitis. R. E. Strauss and C. R. Bruck.—p. 411.
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Relationship of Spread of India Ink to Hair Cycle in Rabbit Skin. J. S. Strauss and A. M. Kligman.—p. 425.
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Fungistatic and Fungicidal Activity of Vegetable Essential Oils and Their Components. X. Vilanova and M. Casanovas.—p. 447.
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The Vitamin, Amino Acid and Growth Requirements of Genus Microsporum. E. S. Bereston.—p. 461.
Growth in Developing Chicken Embryo of Filtrable Agent from Verruca Vulgaris. J. A. Bivins.—p. 471.

Journal Lab. and Clinical Medicine, St. Louis

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Metabolism of Dextran—A Plasma Volume Expander: Studies of Radioactive Carbon-Labelled Dextran in Dogs. R. Terry, C. L. Yuile, A. Golodetz and others.—p. 6.
Chloride "Space" and Total Exchanging Chloride in Man Measured with Long-Life Radiochloride, Cl^{36}. S. A. Threefoot, G. E. Burch and C. T. Ray.—p. 16.
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Study of Sodium, Potassium, and Chloride Contents of Thermal Sweat of Man Collected from Small Isolated Areas of Skin. G. S. Berenson and G. E. Burch.—p. 58.
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Effect of Some Serums on Titer of Rh Antibodies. Method for Detection of Rh Sensitization. E. P. Leroy and W. Spurrier.—p. 85.
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Plasma Lipoprotein Changes Induced by Mild Local Cold Injury. R. F. Redmond, L. J. Milch and W. W. Calhoun.—p. 112.
Corticosteroid Excretion in Liver Disease. H. P. Schedl, K. Ditto and W. B. Bean.—p. 116.
Studies of Liver Function Tests: III. Dependence of Percentage Cholesterol Esters Upon Degree of Jaundice. L. Zieve.—p. 134.
Failure of Antistreptolysin to Protect Against Streptococcal Infection. M. Hamburger and H. M. Lemon.—p. 140.

Journal of Neurosurgery, Springfield, Ill.

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Intracarotid Injection of Papaverine in Cases of Cerebrovascular Thrombosis: Preliminary Report. I. S. Cooper and A. Morello.—p. 331.
Cytologic Diagnosis of Tumor Cells in Cerebrospinal Fluid. C. P. Larson, J. T. Robson and C. C. Reberger.—p. 337.
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Intra-Arterial Pressures in Neck and Brain: Late Changes After Carotid Closure, Acute Measurements After Vertebral Closure. L. Bakay and W. H. Sweet.—p. 353.
Intraspinal Neoplasms in Cervical Region. J. H. Webb, W. McK. Craig and J. W. Kernohan.—p. 360.
Carotid Angiography with Urokon, Using Chamberlain Bi-Plane Stereoscopic Angiographic Unit: Report of 100 Cases. P. Lin, F. Murtagh, H. Wycis and M. Scott.—p. 367.
Surgical Management of Cerebritis Complicating Penetrating Wounds of Brain. A. M. Meirowsky and G. R. Harsh III.—p. 373.
Use of Frozen Cranial Bone Flaps for Autogenous and Homologous Grafts: In Cranioplasty and Spinal Interbody Fusion. K. H. Abbott.—p. 380.
Disorders of Electrolyte and Water Metabolism Following Brain Surgery. I. S. Cooper.—p. 389.
*Relative Accuracy of Electroencephalography, Air Studies and Angiography: In Series of 200 Mass Lesions. F. A. Martin, J. E. Webster and E. S. Gurdjian.—p. 397.
*Treatment of Aneurysms of Circle of Willis. G. Norlén and H. Olivecrona.—p. 404.

Diagnosis of Intracranial Mass Lesions.—The relative accuracy of electroencephalography, pneumoencephalography, ventriculography, and angiography as aids in diagnosis of verified, selected intracranial mass lesions was studied in 200 consecutive patients. No single method proved adequate in the localization of all types of intracranial mass lesions. Of the 224 preoperative electroencephalograms, which were recorded in 198 patients, 168 were abnormal. The diagnosis was aided by the electroencephalogram in 101 cases, the tracing indicating the site or cranial fossa of involvement; but encephalography can be considered only as a useful adjunct to other diagnostic methods. Projected electroencephalographic abnormalities may be falsely interpreted as focal abnormalities, and focal abnormalities tend to become generalized with progression of the disease. Of the 90 pneumoencephalograms performed by the removal of the cerebrospinal fluid and replacement with room air through the lumbar route, employed in the diagnosis of 82 cases, 46 were recorded as abnormal. Thirty of the tumors were localized by this method, an accuracy of 36%. Pneumoencephalography is valuable in the localization of hemispheric mass lesions and is the procedure of choice with tumors at the midline base. Of the 100 ventriculograms performed by the replacement of ventricular fluid with room air through two burr openings in the cranium on 96 patients, 4 were diagnostic failures because of insufficient ventricular filling. In 88 the findings were abnormal, and in 86 they were diagnostic. Ventriculography is the most useful method in the localization of any intracranial mass lesion; it has a general accuracy of 90%. It is the only method, with the exception of vertebral angiography, that is helpful in the diagnosis of posterior fossa masses. Fifty-seven carotid angiograms were performed on 57 patients. Of the 57 masses, 31 were localized exactly. Masses of the anterior two-thirds of the hemispheres and about 50% of those at the midline base may be localized by carotid angiography.

Treatment of Aneurysms of the Circle of Willis.—The results of operations for bleeding aneurysms of the circle of Willis depend on the time in relation to bleeding at which surgical intervention is performed. Of 15 patients operated on in the acute stage between a few hours up to 22 days after the onset of subarachnoid hemorrhage caused by saccular aneurysms of the circle of Willis, 8 died. Good recoveries followed in six patients, and in one patient hemiplegia began to develop the day after operation and became permanent. The procedure employed was ligature of the neck of the aneurysm in 12 patients, wrapping the aneurysm with muscle in 1, and trapping of the aneurysm in 2. In five of the eight fatal cases pronounced vasospasm was present. The authors' impressions from these experiences are that, when massive hemorrhage has occurred, no operation is likely to save the patient, that as a rule it is useless to operate unless the patient survives the first two days, and that the circulation of the brain is profoundly disturbed during the first two or three weeks following hemorrhage, this disturbance being the result both of the increase in intracranial pressure and the vasoconstriction almost invariably present in these cases. During the first three weeks after hemorrhage the results of all types of operations are about the same as with conservative treatment. To the credit side of the surgical intervention must be added that, if the neck of the aneurysm has been clipped, the patient is protected against further hemorrhage. If early operation is performed, efforts must be made to overcome the vasospasm. Of 63 patients with saccular aneurysms of the circle of Willis operated on during the quiescent period following the acute stage, 2 died. The procedure employed was ligature of the neck of the aneurysm, usually with a clip, in 48 patients, wrapping the aneurysm with muscle in 8, trapping the aneurysm in 2, and exploration in 5. Operations after the patient has recovered from the initial hemorrhage are to be considered as a prophylactic measure aimed at preventing further hemorrhage. Clipping of the neck of the aneurysm or trapping meets the conditions stipulated for operations performed after the patient's recovery from the initial hemorrhage. Mortality and morbidity after clipping of the neck of the aneurysm, performed three to four weeks after the last attack of bleeding, is very low and protection against future hemorrhage is excellent.

Journal of Thoracic Surgery, St. Louis

26:1-110 (July) 1953

*Lobar Obstructive Emphysema in Infancy Treated by Lobectomy. H. Sloan.—p. 1.
Mucocele, Congenital Bronchiectasis, and Bronchiogenic Cyst. B. H. Ramsay and F. X. Byron.—p. 21.
*Aortic Commissurotomy. *H. B. Larzelere and C. P. Bailey.*—p. 31.
Cardiopulmonary Function Tests. V. O. Björk.—p. 67.
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Giant Intramural Leiomyoma of Esophagus: Case Report. L. J. Kenney.—p. 93.
Intrathoracic Meningocele Not Associated with Neurofibromatosis. A. D. Sears, R. S. Clayton and E. Siebel.—p. 101.
Results of Supervoltage Roentgenotherapy of Esophageal Carcinoma. F. Buschke and S. T. Cantril.—p. 105.

Lobectomy in Lobar Obstructive Emphysema in Infancy.—Severe obstructive emphysema, most marked in a single lobe, was observed in four infants. In two the left upper lobe was involved; in two, the right middle lobe. Lobectomy was performed successfully in each of the infants; the youngest was 6 days old and the oldest 8 months. The removed lobes showed marked, generalized emphysema. Infection was not present, and no bronchial obstruction was found. It is believed that the obstructive emphysema was due to a check valve mechanism produced by abnormal flaccidity of the bronchi. Each of the infants was improved by lobectomy. All, however, had respiratory symptoms following discharge. In two of the infants there was roentgenographic evidence following operation of emphysema in other portions of the lungs. The bronchial abnormality probably involved other portions of the bronchial tree. Sloan reviews reports on this type of emphysema and stresses that the infants observed at his clinic had labored respirations, wheezing cough, and cyanosis. The symptoms were usually believed to be related to a respiratory infection, but none of the infants had such an infection when examined. The use of antibiotics did not produce improvement. On physical examination there was hyperresonance to percussion over the involved hemithorax, with diminution of breath sounds on auscultation. An expiratory wheeze was often present when the infants cried. The emphysematous lobe filled the entire hemithorax. There was compression of adjacent lung tissue. The mediastinum was shifted to the opposite side. The hemidiaphragm on the affected side was depressed. Shift of the mediastinum with respiration could be demonstrated in two of the infants. In none of the infants was there clinical or roentgenographic evidence of regression of the emphysema prior to operation, and in two of the infants progression of the emphysema occurred. In each case there had been confusion about the diagnosis. Most frequently it was thought that the infant had a large pulmonary cyst. On other occasions, it was felt that atelectasis or pneumonitis was present in the compressed lobes and that the emphysema was compensatory. In one infant a diagnosis of massive collapse of the opposite lung was made. Two of the infants were bronchoscoped prior to operation. The only abnormality noted was a tendency for the bronchi to collapse during expiration. No attempt was made in these infants to decompress the emphysematous lobe by thoracentesis prior to operation. Such an attempt would appear to be inadvisable.

Aortic Commissurotomy.—Larzelere and Bailey review the etiology and pathogenesis of aortic stenosis and point out that just as mitral stenosis can be corrected by instrumental and/or digital means, so can a stenosed aortic orifice be opened. The presence of three cusps in the aortic valve would mechanically provide even more assurance that an unfavorable insufficiency would not result from commissurotomy. The present mode of treatment and the instrument that will accomplish safe and adequate aortic commissurotomy are described. The instrument is the Bailey aortic dilator, which is a triradiate parallel expanding mechanism, containing three flanged blades. It is used to part the fused aortic commissures. A transventricular approach is used; the instrument is passed into place over a previously inserted beaded guide wire. The authors present observations on 42 patients in whom aortic commissurotomy was done. This number included 25 patients with significant mitral stenosis; 23 mitral commissurotomies were performed. Two of the 23 underwent simultaneous mitral commissurorrhaphy (commissural suturing) for significant associated insufficiency. Also, in the three cases of aortic stenosis associated with a significant degree of mitral insufficiency, two commissurorrhaphies of the mitral valve were performed. In one case of aortic insufficiency associated with slight degrees of aortic stenosis and mitral insufficiency, an aortic commissurotomy and a transaortic Nylon graft tamponage of the aortic valve were performed, along with mitral valve exploration. There were seven deaths in the 42 cases. One death occurred in the 13 patients with isolated aortic stenosis and was due to ventricular fibrillation. There were three deaths in 19 patients who had both aortic and mitral stenosis, and in 17 in whom both mitral and aortic commissurotomies were done. One of these was due to bleeding from the ventricular surgical wound; one resulted from a massive pulmonary embolism due to thrombosis of the right auricular appendage; and one resulted from recurrent pulmonary edema following mitral insufficiency produced at surgery. In five cases of aortic stenosis, mitral stenosis, and mitral insufficiency (each lesion significant), there were two deaths. One of these occurred on the operating table and was due to a tear in the hemostatic ventricular purse-string suture. The other death, 28 days postoperatively, was due to reactivation of rheumatic infection with pericarditis, congestive failure, and perhaps some induced aortic insufficiency. In three cases of aortic stenosis and mitral insufficiency (three aortic commissurotomies and two mitral commissurorrhaphies), there was one death caused by pulmonary edema probably resulting from a too tightly sutured mitral valve. The authors hope that aortic commissurotomy for aortic stenosis will prove to be as beneficial as mitral commissurotomy for mitral stenosis.

Journal of Urology, Baltimore

70:1-128 (July) 1953. Partial Index

New Perspectives in Renal Physiology. A. V. Wolf.—p. 1.
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Renal Angiography. M. Harvard.—p. 15.
Ruptured Intrarenal Aneurysm. W. J. Baker and N. I. Huckleberry.—p. 20.
Perinephric Abscess with Perinephro-Bronchial Fistula: Case Report. L. R. Wharton Jr.—p. 26.
Peri-Ureteropelvic Cyst. J. Hyman.—p. 32.
Peri-Ureteritis Plastica: Report of Four Cases. S. A. Vest and B. Barelare Jr.—p. 38.
Ureteral Injuries in Gynecologic Surgery. E. C. St. Martin, B. E. Trichel, J. H. Campbell and C. M. Locke.—p. 51.
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Indications for Uretero-Intestinal Anastomosis. C. A. Fort.—p. 68.
Observations on Normal and Abnormal Bladder Physiology. J. Lapides.—p. 74.
Malacoplakia of Urinary Tract: Report of Three Cases. W. H. Bennett.—p. 84.
Vaginal Transillumination in Suprapubic Repair of Vesicovaginal Fistula. E. C. Shaw.—p. 91.
Vesical Neck Obstructions in Children. H. P. McDonald, W. E. Upchurch and C. E. Sturdevant.—p. 94.
Bilateral Adrenalectomy for Prostatic Cancer. P. L. Scardino, C. L. Prince and T. A. McGoldrick.—p. 100.
"Adenomatoid" Tumor of Tunica Vaginalis. S. S. Ambrose Jr.—p. 110.
Furadantin in Infections of Genito-Urinary Tract. C. M. Norfleet Jr., P. R. Beamer and H. M. Carpenter.—p. 113.

Kansas Medical Society Journal, Topeka

54:249-312 (June) 1953

Poliomyelitis—Selective Five-Year Review. H. O. Marsh and C. D. Hensley Jr.—p. 249.
Renal Lithiasis and Recent Concepts in Treatment. C. A. Wattenberg and J. B. Beare.—p. 256.
Procedure for Repeated Infant Transfusion. F. A. Allen and A. G. Dietrich.—p. 263.
Pituitrin Induced Shock—Case Report. M. D. Atwood and H. Benvenuti.—p. 266.

54:313-360 (July) 1953

The Practitioner, the Surgeon and Acute Abdominal Disease. R. L. Sanders.—p. 313.
Iliac Bone Used as Barrel Stave Grafts for Non-Unions: Report of 81 Cases. H. O. Anderson.—p. 316.
Ketosteroids in Coronary Heart Disease. R. R. Howard and M. M. Gertler.—p. 319.
Indications for Pulmonary Resection. A. M. Tocker.—p. 323.

Missouri Medicine, St. Louis

50:579-656 (Aug.) 1953.

Injuries to Tarsus Bones. R. L. Diveley and R. H. Kiene.—p. 595.
Clinical Experiences with New Medium (70 Per Cent Urokon—Sodium) in Intravenous Urography. J. E. Byrne and W. F. Melick.—p. 599.
*Use of Hydrocortisone (Compound) by Local Injection in Arthritis and Allied Conditions. R. H. Ramsey and J. A. Key.—p. 604.
Trichlorethylene Analgesia and Anesthesia in Obstetrics and Minor Surgery. S. Brown and B. F. Fehlman.—p. 609.

Hydrocortisone (Compound F) by Local Injection in Arthritis.—Ramsey and Key present their observations on 119 patients with arthritis who received a total of 218 local injections of hydrocortisone. These patients had not received adrenal steroids by any other route, and they were observed for a sufficient period of time to permit evaluation of the results. The injections were given after 1% procaine had been injected into the skin and along the path of the needle but not into the joint, if this could be avoided. The hydrocortisone was then injected into the joint with another needle and syringe. The dose of hydrocortisone was from 25 to 50 mg. for the major joints and 5 to 20 mg. for the smaller joints. A total of 100 injections was given into 57 joints of 51 patients with hypertrophic arthritis. The response was considered satisfactory if there was at least a 50% relief in symptoms for a minimum of a week. With this criterion, 48 of 57 joints showed a satisfactory response. Many of these patients experienced nearly complete relief of symptoms for from 3 to 10 weeks or longer. In 14 patients with active rheumatoid arthritis 20 of 22 involved joints showed some response to intra-articular injections of hydrocortisone, but in general the response in these patients was of shorter duration than was the case in patients with hypertrophic arthritis. Thirty-three patients were given a total of 52 injections into painful bursas, with curative effect in 17 (mostly acute calcific bursitis of shoulder), partial relief in 9, and no benefit in 7. Tennis elbow, painful heels, acutely inflamed bunions and hemarthrosis of the knee following meniscectomy were some of the other conditions in which hydrocortisone was administered by local injection. No serious complications were observed in these patients, but the possibility of producing a septic arthritis by contamination should be kept in mind, and a careful injection technique should be used. The authors resorted to intra-articular injection only in selected cases with relatively severe symptoms, because they feel that a needle should not be introduced into a joint without good reason. While the treatment is not a panacea, it is a valuable therapeutic agent not only for acutely painful arthritic joints but also for its local anti-inflammatory action in several other painful conditions in which the etiology is obscure.

New England Journal of Medicine, Boston

249:45-84 (July 9) 1953

*Progressive Systemic Sclerosis (Scleroderma). P. M. Beigelman, F. Goldner Jr. and T. B. Bayles.—p. 45.
Family Outbreaks of Infectious Hepatitis: Prophylactic Use of Gamma Globulin. B. F. Brooks, D. Yi-Yung Hsia and S. S. Gellis.—p. 58.
Guillain-Barré Syndrome Associated with Acute Hepatitis. I. C. Plough and R. S. Ayerle.—p. 61.
Pediatric Radiology. E. B. D. Neuhauser and M. H. Wittenborg.—p. 62.
Evaluation of Tubeless Gastric Analysis: Report of 90 Determinations by Intubation and Tubeless Methods Made Simultaneously. F. P. Becker and M. Maslon.—p. 68.

249:85-124 (July 16) 1953

Management of Essential Hypertension. G. G. Duncan and R. J. Gill.—p. 85.
Idiopathic Ulcerative Colitis Beginning After Age of 50. B. M. Banks and M. I. Klayman.—p. 91.
Inhibition of Experimental Cholesterol Arteriosclerosis by Ultraviolet Irradiation. R. Altschul.—p. 96.
Postoperative Thrombophilia. R. Warren.—p. 99.

249:125-170 (July 23) 1953

Current Research Toward Global Control of Malaria. G. Covell.—p. 125.
Evaluation of New Antitussive Agent. L. J. Cass and W. S. Frederik.—p. 132.
Acute Pericarditis Associated with Infectious Mononucleosis. H. Miller, J. F. Uricchio and R. W. Phillips.—p. 136.
Use of New Oral Diuretic, Diamox, in Congestive Heart Failure. H. Belsky.—p. 140.
Management of Acute Glomerulonephritis. H. A. Derow.—p. 144.

Progressive Systemic Sclerosis (Scleroderma).—Beigelman and associates present observations on 15 patients with scleroderma, and suggest that the term progressive systemic sclerosis more accurately reflects the diffuse nature of the disease, which is not limited to the skin. Constitutional symptoms were present in all of the 15 cases. Twelve had lost weight, about half of the patients had noticed weakness or increased fatigability, and 6 had elevated temperatures. Twelve patients had typical Raynaud's syndrome. Joint pains or swelling or stiffness, or all three were present in 12 patients at some time during the course of their illness. Fourteen patients had cardiorespiratory embarrassment. Nine complained of dyspnea, and seven had ankle edema. Six patients had palpitations. Three were hoarse, without laryngeal infection. Eleven had complaints referable to the gastrointestinal system. Eight noted dysphagia. The earliest symptom in seven cases was referable to the joints rather than the skin. Of those who had skin manifestations as the first sign of disease some noted thickening of the skin first, whereas others had pruritus, erythema, vitiligo and, in one case, felons. Roentgenograms were studied in nine cases. Common findings included pulmonary fibrotic streaks and nodules, cardiac changes, and esophageal abnormalities. Soft-tissue, bone, and joint lesions were frequent. Four patients had calcinosis. Electrocardiographic changes were frequent and arrhythmias were the most prominent. All autopsied cases demonstrated diffuse visceral fibrotic lesions. Vascular sclerosis and intimal hyperplasia were common. One case displayed inflammation of the mitral and tricuspid valves. All forms of therapy, including corticotropin and cortisone in most cases, proved ineffective. The histological findings in the present series, which confirm primary and basic involvement of connective tissue, place this disease, pathogenetically, in the same group with the collagen diseases, particularly disseminated lupus erythematosus. The major difference in the clinical picture and course of the two diseases can be perhaps explained through differences in the intensity and diffuseness of the reaction. Acute disseminated lupus suggests a comparatively severe, rapid connective tissue reaction, with edema and necrosis predominating, and progressive systemic sclerosis (scleroderma) represents a slow, torpid, generalized mesenchymal response, with fibrosis and sclerosis predominating. The ubiquitous proliferative hyaline vascular lesions observed in this series were probably sequelae of early, mild vessel-wall reaction preceding mesenchymal involvement.

New York State Journal of Medicine, New York

53:1601-1710 (July 15) 1953

Present Status of X-Ray Therapy in Neoplastic Diseases. E. P. Pendergrass.—p. 1643.
Palliative Treatment of Nonresectable Pulmonary Neoplasms—Primary and Metastatic. E. Mayer and B. Roswit.—p. 1647.
Pigmented Nevi: Their Relationship to Malignant Melanoma and Treatment. G. M. Lewis.—p. 1654.
Analysis of Cancer in Infancy and Childhood. J. E. Franklin.—p. 1659.
Treatment of Rheumatoid Arthritis. L. M. Lockie.—p. 1665.
Current Status of Medical Management of Pulmonary Tuberculosis. E. O. Coates Jr.—p. 1667.
Physical Medicine and Rehabilitation in Home Care Programs. D. A. Covalt.—p. 1671.
Hay Fever, Humidity, and Sinusitis: Further Studies. M. Unger.—p. 1674.
Preoperative Localization of Intervertebral Disk Hernias and Other Cord-Compressing Lesions. J. H. Siris.—p. 1677.
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Femoral Hernia with an Analysis of 203 Cases. H. L. Skinner, G. W. Bolin and G. M. Gordon.—p. 1685.

Northwest Medicine, Seattle

52:605-696 (Aug.) 1953

*Report of 17 Cases Subjected to Intracardiac Exploration for Mitral Commissurotomy. K. A. Merendino, R. A. Bruce, D. L. Rodgers and J. W. Finley.—p. 625.
Recurrent and Overlooked Common Duct Calculi. M. F. Fuller.—p. 630.
Melanomas. J. L. Norris.—p. 633.
Office Diagnosis of Operable Congenital Heart Lesions. R. Tidwell, R. Rushmer and R. Polley.—p. 635.
Current Status of Acute Rheumatic Fever in State of Washington. R. A. Bruce.—p. 636.

Mitral Commissurotomy.—Merendino and co-workers select patients for commissurotomy on the basis of the physical fitness index, which is derived from performance while walking on a treadmill at 1.7 miles per hour on a 10% grade for 10 minutes. The patient is not permitted to walk either faster or slower; he must either walk or stop. Endurance is measured by the number of minutes he is able to walk. Information is obtained simultaneously by means of a face mask connected to a Beckman oxygen analyzer, which continuously records the amount of oxygen extracted from the atmosphere. The third factor utilized in computation of the physical fitness index is the total number of heart beats in the first three minutes following the termination of exercise, regardless of its duration. The formula of the physical fitness index is given. Commissurotomy was regarded as indicated: (1) in patients with mitral stenosis without serious left ventricular enlargement who are disabled by the disease; (2) in women with mitral stenosis in the childbearing age who have had heart failure with a previous pregnancy; and (3) in patients with rheumatic heart disease and left auricular enlargement who have exhibited one or more episodes of peripheral embolism. Fifteen patients with disabling mitral stenosis were operated on. An additional patient, a girl of 19, who was in severe cardiac failure during her last pregnancy, was subjected to prophylactic mitral commissurotomy, although following pregnancy she was not disabled in any way. In another patient, the mitral valve was explored; because of serious mitral regurgitation and the feeling of the surgeon that the patient would be harmed by commissurotomy, only ablation of the auricular appendage was carried out. No deaths occurred in these 17 patients, and there was no evidence of embolism during surgery. Of eight patients with fibrillation preoperatively, most had a trial period of quinidine therapy. In only three patients in this group was a normal sinus rhythm obtained after surgery. Quinidine is still necessary to maintain normal sinus rhythm. Two patients who received digitalis for years discontinued all cardiac medication. Almost two months must elapse before objective evidence of improvement can be noted. Those followed the longest have shown the best results. Improvement has been noted to continue for one year. Many patients who felt better postoperatively did not show objective improvement. Some who felt little different revealed an impressive improvement in their physical fitness index. It is of interest that those who felt considerably better following commissurotomy but who did not show early improvement in their physical fitness index subsequently improved. One important indication of the surgical result, which most patients note immediately, is improvement in their ability to breathe or take a deep breath.

Pediatrics, Springfield, Ill.

12:1-98 (July) 1953

Congenital Megacolon. O. Swenson.—p. 1.
Parahemophilia (Owren's Disease). B. Redner, H. Scalettar and M. Weiner.—p. 5.
Interstitial "Plasma Cell" Pneumonia of Premature and Young Infants. W. C. Deamer and H. U. Zollinger.—p. 11.
Behavior Changes Indicating Emotional Trauma in Tonsillectomized Children: Final Report. K. Jackson, R. Winkley, O. A. Faust and others.—p. 23.
Effects of Hydrazinophthalazine (Apresoline®) on Blood Pressure and Renal Function in Children with Acute Nephritis. W. W. McCrory and M. Rapoport.—p. 29.
*Chemotherapy of Miliary Tuberculosis and Tuberculous Meningitis. Public Health Service Cooperative Investigation.—p. 38.
Peptic Ulcer in Childhood. B. R. Girdany.—p. 56.
Adrenal Function in Premature Infants: II. ACTH-Treated Infants and Infant Born of Toxemic Mothers. J. T. Lanman.—p. 62.
ACTH in Treatment of Erythroblastosis: II. Progress Report. L. J. Geppert, J. H. Akeroyd and J. W. Simpson.—p. 72.

Chemotherapy of Miliary Tuberculosis and Tuberculous Meningitis.—The United States Public Health Service early in 1948 initiated a study of the use of Promizole (2-amino-5-sulfanilylthiazole) and *p*-aminosalicylic acid in combination with streptomycin for childhood miliary and meningeal tuberculosis. Two combinations of drugs were compared in a cooperative study of 32 children with acute hematogenous miliary tuberculosis treated at seven different pediatric centers under a common protocol. Eighteen children were given streptomycin intramuscularly and *p*-aminosalicylic acid and Promizole orally; 14 children were given streptomycin and *p*-aminosalicylic acid without Promizole. A one year follow-up of this small group showed no significant differences in the results from the use of Promizole. Five of 10 children treated initially with a streptomycin dose of 20 mg. per kilogram intramuscularly twice a day were either dead or had meningitis, while only 2 of 22 children treated with a 50 mg. dose died; one of these had meningitis. Twenty-six of the original 32 patients were alive 12 months after the start of treatment. Relapse of miliary disease was not encountered during the first year of this study. The optimum duration of treatment is still uncertain. The fact that three patients developed meningitis at 110, 125, and 130 days of study suggests that treatment should be relatively long. Another follow-up study, after a span of two to four years from the first day of treatment, revealed that all 26 patients were still alive. Twenty of the 24 children who had been in good condition without gross handicap or residual effects at the end of one year remained well. None of these had sequelae or relapses. The other six children, although free of miliary disease, had or were suspected of having other forms of tuberculosis. Of 93 children with tuberculous meningitis, of whom 23 also had miliary tuberculosis, half were given streptomycin intramuscularly, streptomycin intrathecally, and *p*-aminosalicylic acid and Promizole by mouth. The remainder received an identical regimen except that Promizole was omitted. Forty-two patients survived the first year; 24 of these had no serious sequelae from the disease. No differences were noted in the course of the disease among those who received Promizole and those who did not, and the one year survival rates in the two groups were practically identical. Revision of the streptomycin dosage, which took place after the study had been in progress seven months, produced results that appear to justify the change. A dose of streptomycin of 50 mg. per kilogram intramuscularly twice daily to a maximum of 1.5 gm. twice daily was apparently more effective than 20 mg. per kilogram twice daily. From two to four years after onset of treatment 54 of the 93 children with tuberculous meningitis had died, 12 were living with gross residual effects, one patient could not be traced, and 26 were alive without significant sequelae from meningitis.

Psychosomatic Medicine, New York

15:279-320 (July-Aug.) 1953

Psychotic Reactions Induced by Corticotropin (ACTH) and Cortisone. G. H. Glaser.—p. 280.
Studies on Physiology of Awareness: Interrelationships of Emotions, Life Situations, and Anoxemia in Patients with Bronchial Asthma. J. W. L. Doust and D. Leigh.—p. 292.
Emotions and Hydrochloride Acid Secretion During Psychoanalytic Hours. G. F. Mahl and R. Karpe.—p. 312.
Development of New Symptoms Following Medical and Surgical Treatment for Duodenal Ulcer. J. S. Browning and J. H. Houseworth. —p. 328.
Electroencephalographic and Psychological Studies of Case of Migraine with Severe Preheadache Phenomena, with Comments on Cerebral Vasospasm and Focal Hypertensive Encephalopathy. G. L. Engel, W. W. Hamburger, M. Reiser and J. Plunkett.—p. 337.
Age and Sex in Eye Injuries of Children. T. F. Schlaegel Jr. and P. F. D. Seitz.—p. 349.

Public Health Reports, Washington, D. C.

68:737-828 (Aug.) 1953. **Partial Index**

Nutrition Research: Potentialities in Chronic Disease. W. H. Sebrell Jr. —p. 737.
Enrichment: Public Health Approach to Better Nutrition. W. H. Sebrell Jr.—p. 741.
*Agglutination of Treponema Pallidum in Syphilitic Serums. C. P. McLeod and H. J. Magnuson.—p. 747.
Sex Differences in Trend of Mortality from Certain Chronic Diseases. G. Kaufman and T. D. Woolsey.—p. 761.
Public Health Today—Nation's Best Investment. L. A. Scheele.—p. 771.
Half Century of International Control of Venereal Diseases. T. J. Bauer. —p. 779.
Incidence of Reactions to Antirabies Horse Serum. T. S. Hosty and F. R. Hunter.—p. 789.
Investigation of Jute Imports as Potential Plague Source. E. W. Norris, L. B. Schneider, L. J. Hanchett and others.—p. 802.

Agglutination of Treponema Pallidum in Syphilitic Serums.—Numerous unsuccessful attempts have been made to demonstrate specific agglutination of pathogenic Treponema pallidum in syphilitic serum. Most such attempts have met with failure because of the tendency of the organisms to agglutinate spontaneously. Interest in the subject was revived by the report of Tani that spirochetes killed with antiformin showed no such spontaneous clumping but were agglutinated in syphilitic serum after an incubation period of 24 hours, and that organisms so treated provided satisfactory antigens for the serodiagnosis of syphilis. The agglutination technique described was devised by bringing together the findings of two separate lines of investigation. The experiments of Tani were confirmed and extended. At the same time, there was in progress a study of complement in the Treponema pallidum immobilization test. A study was made of the effects of adding fresh steer serum to mixtures of T. pallidum and syphilitic serum. Because of its content of conglutinin, the steer serum caused disappearance rather than immobilization of the spirochetes under the conditions of the T. pallidum immobilization test and greatly accelerated and enhanced the clumping of the organisms in the agglutination test. The agglutination test performed by this method appears to compare favorably both in specificity and sensitivity with the T. pallidum immobilization test.

Radiology, Syracuse, N. Y.

61:1-160 (July) 1953

*Supraclavicular Shadows in Chest Film Interpretation. H. I. Amory and P. E. Sieber.—p. 8.
Roentgen Findings in Skull and Chest in 1,030 Newborn Infants. A. P. Dedick and J. Caffey.—p. 13.
Cleidocranial Dysostosis, with Report of Four Cases. D. Eisen.—p. 21.
Peptic Ulcers in Children, with Report of Four Cases. R. C. Aye.—p. 32.
Angiographic Configuration of Intracerebral Metastatic Tumors. S. Ethelberg and K. Vaernet.—p. 39.
Calcification of Left Auricle. S. D. Hemley, A. Schwinger and L. A. Harrington.—p. 49.
Bilateral Aneurysms of Subclavian and Axillary Arteries: Report of Case. S. P. Perry and C. W. Massey.—p. 53.
Kyphoscoliosis: Angiocardiographic Findings. W. Dubilier Jr., I. Steinberg and C. T. Dotter.—p. 56.
Congenital Hereditary Cranium Bifidum Occultum Frontalis, with Review of Anatomical Variations in Lower Midsagittal Region of Frontal Bones. R. J. Terrafranca and A. Zellis.—p. 60.
Symptomatic Hepato-Diaphragmatic Interposition of Colon. H. L. Hunter and R. Rapp.—p. 67.
Simple Device for Saving Films in Radiography of Intestine. S. Fineman. —p. 71.
Rapid Film-Changing Device for General Radiography: Preliminary Report. L. G. Rigler and J. C. Watson.—p. 77.
Device to Support Patients During Upright Fluoroscopic Examinations. H. L. Steinbach and L. B. Lusted.—p. 80.
Observations of Scattered Radiation Inside and Outside a 1,000-Curie Cobalt ^{60} Teletherapy Room. J. G. Brown.—p. 82.
Thyroid Gland Weight Determination from Thyroid Scintigrams with Postmortem Verification. W. E. Goodwin, B. Cassen and F. K. Bauer. —p. 88.
The n Unit and Energy Absorption in Tissue. H. H. Rossi.—p. 93.
Effects of Acute Whole-Body X-Irradiation on Salt and Water Metabolism and Their Clinical Significance. J. Z. Bowers, V. Davenport, N. Christensen and C. J. Goodner.—p. 97.
X-Ray Absorption Coefficients for Borosilicate Glass. S. L. Whitcher and N. Todd.—p. 103.

Supraclavicular Shadows in Chest Films.—Supraclavicular shadows, present on most posteroanterior films of the chest, are pointed out as normal features, and the student is cautioned against confusing them with pathological lesions. Masses in the neck resulting from lymphomas, tuberculosis, thyroid, salivary gland, laryngeal, and superior sulcus tumors, and metastatic involvement from carcinoma of the breast and testes may partially or completely obliterate the supraclavicular fossas, either as a result of metastasis from a distant primary lesion or by direct extension. Thus tumors or other disease processes that result in obliteration of the supraclavicular fossas can be detected roentgenographically by absence of one or both of the supraclavicular shadows. Twelve cases showing abnormal supraclavicular shadows produced by disease are presented and several are illustrated. An evaluation of supraclavicular shadows should be made routinely during the interpretation of all posteroanterior films of the chest. If the shadows are present bilaterally and are normal in appearance, no comment should be made concerning them. Unilateral absence should be reported and investigated clinically, provided the film does not indicate obesity or gross malposition. Bilateral absence may be significant and should be investigated when the patient is of normal or subnormal weight.

Science, Washington, D. C.

118:1-32 (July 3) 1953. **Partial Index**

Susceptibility of Starch in Fresh and Stale Bread to Enzymatic Digestion. S. S. Jackel, A. S. Schultz and W. E. Schaeder.—p. 18.
*Estrogen Excretion in Women with Mammary Cancer Before and After Adrenalectomy. T. L-Y. Dao.—p. 21.
Hydrogen Ion Concentration of Human Fetal Blood in Utero at Term. I. H. Kaiser.—p. 29.

Estrogen Excretion in Women with Breast Cancer Before and After Adrenalectomy.—Estrogen assays were performed on the urine of 12 women with breast cancer and of 12 normal women who served as controls. The urinary excretion of estrogen in premenopausal women was in the same range regardless of the presence or absence of breast cancer. Elimination of ovarian function by roentgen irradiation or ovariectomy led to lowered values of estrogen in the urine. When adrenalectomy was performed after elimination of ovarian function, estrogen was no longer detectable in the urine. Nine of 12 patients with mammary cancer subjected to adrenalectomy showed a measurable decrease in the neoplastic involvement after the operation. The author stresses that patients with breast cancer who had had eradication of ovarian function by irradiation or surgical excision still excreted estrogen in significant amount; that adrenalectomy eliminated estrogen from the urine of those cases. It is evident that the adrenals are the only significant source of estrogen in women with breast cancer who do not have active ovarian function. The three patients with mammary cancer who did not have a regression of the neoplasm after adrenalectomy, excreted preoperatively amounts of estrogen, which in two cases were below the mean titer for ovariectomized women. It is not possible to state from this study that the reduction of estrogen was the critical factor in the remission of the disease in the patients who were benefited.

South Carolina Medical Assn. Journal, Florence

49:171-198 (July) 1953

Urological Problems in the Female. R. Lich Jr.—p. 171.
True Hermaphroditism with Report of Case. W. C. Cantey.—p. 175.
Arteriosclerosis. E. W. Masters.—p. 181.

Southern Medical Journal, Birmingham, Ala.

46:633-728 (July) 1953

Surgical Treatment of Malignant Tumors of Eyelid. L. Turner and S. D. McPherson Jr.—p. 633.
Correction of Funnel Chest Deformity. J. C. Chesney and D. C. Daughtry.—p. 636.
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of 12 patients with mammary cancer subjected to adrenalectomy showed a measurable decrease in the neoplastic involvement after the operation. The author stresses that patients with breast cancer who had had eradication of ovarian function by irradiation or surgical excision still excreted estrogen in significant amount; that adrenalectomy eliminated estrogen from the urine of those cases. It is evident that the adrenals are the only significant source of estrogen in women with breast cancer who do not have active ovarian function. The three patients with mammary cancer who did not have a regression of the neoplasm after adrenalectomy, excreted preoperatively amounts of estrogen, which in two cases were below the mean titer for ovariectomized women. It is not possible to state from this study that the reduction of estrogen was the critical factor in the remission of the disease in the patients who were benefited.

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- Cancer Detection. G. Z. Williams.—p. 444.
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- Weapon for Eradication of Pulmonary Tuberculosis—Routine Sputum Test by Local Medical Doctor. W. E. Roye and P. P. Powers.—p. 451.

West Virginia Medical Journal, Charleston

49:217-244 (Aug.) 1953

- The Price of Glory. J. S. Klumpp.—p. 217.
- Motion Sickness. E. J. Van Liere.—p. 222.
- Irradiation Therapy as an Adjunct to Surgery. V. L. Peterson.—p. 225.
- Involutional Melancholia. A. D. Weatherhead.—p. 227.
- The Surgeon, the Psychiatrist and the Patient with Peptic Ulcer. W. B. Rossman.—p. 231.

FOREIGN

Archiv für klinische Chirurgie, Berlin

274:465-634 (Nos. 6 & 7) 1953. **Partial Index**

Problem of Warming During Postoperative Phase. M. Reifferscheid and K. Dietmann.—p. 465.
Clinical Aspects and Surgical Treatment of Tuberculosis of Brain and Meninges. F. Pampus.—p. 470.
Profuse Mucosa[illegible] of Neurovascular Origin: Clinical and Experimental [illegible] muth.—p. 490.
*Cobalt Isotope, [illegible] Irradiation of Bronchial Carcinoma. W. E. J. Schneidrzik, C. Winkler and A. Kuske.—p. 538.
Roentgenologic Demonstration of Stenosis of Aortic Isthmus. R. Janker.—p. 548.
Cardiac Arrest and Ventricular Fibrillation. K. Dietmann and A. Gütgemann.—p. 562.
Surgical Interventions on Hypophysis and Adrenals. K. H. Bauer.—p. 606.

Radioactive Cobalt in Postoperative Treatment of Bronchial Carcinoma.—Schneidrzik and associates use a solution of radioactive Cobalt (Co^{60}), which had proved effective in the treatment of bladder tumors. The relative harmlessness of this form of irradiation for the adjoining structures had been proved by experiments on dogs. The authors chose a Foley catheter as the most suitable container for the radioactive solution. The construction of the Foley catheter with its thick and thin tubes and rubber balloon is described. After pulmonary resection the catheter is placed into the thorax in such a manner that the balloon, which can be inflated to a capacity of about 35 cc., rests on the hilus. The catheter is secured by means of a thread above and below the balloon, which, when empty and collapsed, can be pulled out from beneath these securing sutures. Both tubes of the catheter are led outward through an intercostal space. On the ninth postoperative day about 35 cc. of radioactive cobalt solution is placed into the balloon through the small-caliber tube. The patient now has to be isolated so that others will not be damaged by the gamma radiation, readily detectable in the surroundings of the patient with the aid of a Geiger counter. The radioactive fluid is suctioned off from five to seven days later. The histories of three patients in whom this form of irradiation was employed after pneumonectomy are cited. This form of intrathoracic irradiation was comparatively simple, reduced the time required for irradiation, impaired the patient's general condition only slightly, and insured favorable distribution of the ray dosage.

Archivos Instituto Cardiologia de Mexico, Mexico, D.F.

23:131-278 (April 30) 1953. **Partial Index**

*Patent Ductus Arteriosus with Pulmonary Hypertension. I. Chávez, E. Cabrera and R. Limón.—p. 131.
Intracardiac Valvulotomy by Means of Catheter. V. Rubio-Alvarez, R. Limón L. and J. Soni.—p. 183.
Mitral Stenosis: Clinical, Physiological, and Surgical Aspects. L. Dexter.—p. 193.
Clinical Aspects of Bacterial Endocarditis (Especially Thermic Curve). S. Aceves and T. Cesarman.—p. 235.

Patent Ductus Arteriosus with Pulmonary Hypertension.—Observations were made on 40 patients, including 24 children of the ages of 3 and 11 years, 14 young adults, not older than 30 years, and 2 adults 54 and 65 years old. The diagnosis of the congenital abnormality was confirmed by passing the catheter into the ductus and into the thoracic aorta in 34 patients, and by operation in six. The patients were placed in three groups with regard to the degree of pulmonary hypertension: group 1 included those between 30 and 60 mm.; group 2, those with 61 and 100 mm.; and group 3, those with 100 and 136 mm. The clinical symptoms, roentgen signs, and the electrocardiogram in the 14 patients of the first group were typical of a patent ductus arteriosus. In the 14 patients in the second group and in 12 in the third the changes observed corresponded to the degree of hypertension. In the patients of the second group, the continuous typical murmur changed into a double systolic and diastolic murmur. Both the left ventricle and the right ventricle were enlarged and showed strain in the electrocardiogram. The shunt was from the aorta into the pulmonary artery. In 11 of the 12 patients in the third group the continuous murmur had disappeared and was replaced by a systolic murmur heard at the base of the heart. A diastolic rumbling murmur, resembling that of mitral stenosis, was heard in three patients. Both ventricles were greatly enlarged, but the enlargement of the right ventricle masked the enlargement of the left. The electrocardiogram showed marked strain of the right ventricle. In severe cases the flow of blood through the patent ductus became crossed and the patients showed a diffuse cyanosis, which was particularly intense in the lower half of the body. The clinical signs were uncertain. The diagnosis was arrived at by sounding the patent ductus. The severe type of pulmonary hypertension is more frequent in children than in adults, suggesting that the condition is primary and not the result of the shunt. Surgery may control hypertension or may prove ineffective. Diagnosis of the syndrome of a patent ductus arteriosus with pulmonary hypertension is possible without catheterization if the patient with a congenital heart disease, with or without cyanosis, presents a systolic murmur at the base of the heart, an electrocardiogram with right ventricular strain, in absence of a polyphasic QRS in the sixth lead, and a radiological picture of pulmonary hypertension with pulsation along the entire left cardiac border of the shadow, which sometimes reaches the hilar vascular shadows.

British Medical Journal, London

2:1-46 (July 4) 1953

The Doctor in the Witness-Box. V. Simon.—p. 1.
Early Complications of Cardiac Infarction. H. E. S. Pearson.—p. 4.
Diagnosis of Cardiac Infarction. R. S. Stevens.—p. 9.
*Familial Hypertrophic Pyloric Stenosis. T. Fenwick.—p. 12.
Post-Partum Venous Thrombosis and Leg Ulcers. S. T. Anning.—p. 14.
*Emergency Thoracotomy for Massive Spontaneous Haemopneumothorax. J. Borrie.—p. 16.
Manipulation and Accurate Manual Methods in General Practice. R. Barbor.—p. 18.
Diagnosis of Thyrotoxicosis by Simple Out-Patient Radioactive Iodine Technique. A. G. Macgregor, H. Miller, P. J. Blaney and W. S. Whimster.—p. 21.
Case of Primary Biliary Cirrhosis. H. G. H. Richards and C B. S. Fuller.—p. 23.

Familial Hypertrophic Pyloric Stenosis.—In the family cited by Fenwick, hypertrophic pyloric stenosis was discovered at operation in a man, aged 39. He subsequently revealed that two of his four sons had had the Ramstedt operation (pyloromyotomy) performed upon them in infancy, and he had a nephew treated medically for this condition in infancy. In addition, his eldest brother died in infancy from persistent vomiting. The case histories of the man, his two sons, and his nephew (son of his sister) are presented. In this last case the trait passed through a female member of the family. The occurrence of pyloric stenosis in one adult and three children in this family supports the contention that the adult and infantile conditions are the same and that a familial incidence does exist. In the infant, the Ramstedt operation is accepted as the standard procedure. In the adult a variety of procedures have been adopted. They include Ramstedt's sphincterotomy, finger dilatation of the pylorus, plastic procedures on the pylorus, gastroenterostomy, and gastrectomy, either partial or subtotal. The object of surgical treatment is to relieve the obstruction, and this is best done by removing it altogether. The man, whose case is reported, had high normal acidity. A Billroth 1 partial gastrectomy was performed, approximately half the stomach being removed. The result is satisfactory. If the acidity is low, Billroth 1 pylorectomy as recommended by McCann and Dean would seem to be equally satisfactory in that the lesion is removed and a relatively large stomach remnant remains.

Emergency Thoracotomy in Spontaneous Hemothorax.—The purpose of this report is to emphasize the serious nature of spontaneous hemopneumothorax, to stress that its onset may be delayed after the onset of the accompanying spontaneous pneumothorax, and to report two cases with massive spontaneous pneumothorax, both of which were successfully treated by emergency thoracotomy. Evacuation of blood and blood clot from the pleural cavity, control of the bleeding-point, and immediate reexpansion of the totally collapsed lung, was followed by rapid recovery and return to normal life. The third patient, seen three weeks after the onset of the hemopneumothorax, required decortication of his lung. A review of the literature disclosed that 19 of 91 previously reported cases were fatal. Only four patients, including the two reported here, have so far been treated by emergency thoracotomy. Massive spontaneous hemopneumothorax is a surgical emergency which is best treated by resuscitation of the patient, early emergency thoracotomy, evacuation of the blood and blood clot, control of the bleeding-point, treatment of the causative lesion, and the induction of an artificial pleurisy to prevent recurrence. With emergency thoracotomy recovery can be rapid and complete.

2:57-108 (July 11) 1953

- Mechanical Heart-Lung for Use in Man. D. G. Melrose.—p. 57.
- Experimental Physiology of Heart-Lung Machine in Parallel with Normal Circulation. D. G. Melrose, J. W. Bassett, P. Beaconsfield and others. —p. 62.
- Post-Inoculation Poliomyelitis. J. Grant.—p. 66.
- Acute Appendicitis in Infancy and Early Childhood. G. L. Bunton. —p. 71.
- Principles and Practice of Yaws Control. C. J. Hackett.—p. 74.
- Effect of Large Doses of Histamine on Gastric Secretion of HCl: An Augmented Histamine Test. A. W. Kay.—p. 77.
- An Antihistamine in Fenestration Operation for Otosclerosis. T. Cawthorne and P. B. Foxwell.—p. 80.
- *A Human Blood-Group Chimera. I. Dunsford, C. C. Bowley, A. M. Hutchison and others.—p. 81.
- Reactivation of Varicella Virus by Cortisone Therapy. J. C. Shee and P. Fehrsen.—p. 82.

A Blood Group Chimera.—Dunsford and collaborators report the case of a blood donor, a woman, aged 25, whose blood when grouped seemed to be a mixture of A and O cells, for anti-A serum caused large agglutinates to appear to the naked eye but the microscope showed these agglutinates to be set in a background of unagglutinated cells. The appearance was such as might be seen for a time after a large transfusion of O blood into an A recipient, but the woman had never received a transfusion. Further samples of her blood ruled out the possibility of accidental mixing of bloods. Observations on this woman's blood called to mind the work of Owen in 1945 on "immunogenetic consequences of vascular anastomoses between bovine twins." Anastomoses are usually present between bovine twin embryos; primordial red cells belonging to one twin take root in the other twin and continue throughout the life of that animal to produce red cells with genetically foreign antigens. Chorionic vascular anastomosis and transfer of endocrine secretions between bovine twins of different sex had been postulated as the cause of the freemartin condition by Lillie as early as 1916. When asked if she were a twin, the woman donor, somewhat surprised, answered that her twin brother had died 25 years ago at the age of 3 months. This woman is the first human being to be shown to have a double set of blood groups, and there can be little doubt that this is the consequence of vascular communication with her twin. Though hematologists have been prepared for this discovery by the work of Owen on bovine twins, such a mixture of blood cannot be common in human twins: the Blood Group Research Unit tested the blood of 58 pairs of dissimilar twins and 82 pairs of apparently identical twins without finding evidence of mixed blood groups.

Harefuah, Jerusalem-Tel Aviv

44:263-288 (June 15) 1953. Partial Index

- *Terramycin in Treatment of Relapsing Fever. A. Gefel and R. Rubenow. —p. 263.
- *Cancer of Breast and Its Occurrence in Israeli Women. H. Kook.—p. 266.
- Pathology of Sleep. A. Stern.—p. 268.

Oxytetracycline (Terramycin) in Relapsing Fever.—The tick-borne type of relapsing fever, which is prevalent in Israel, is known to be resistant to arsenicals, penicillin, gold, and bismuth compounds. Gefel and Rubenow point out that experiments carried out by Adler and co-workers proved that oxytetracycline has a specific influence on rats inoculated with Spirochaeta persica. The authors themselves used oxytetracycline in the treatment of seven cases of relapsing fever. The drug was given orally to two, intravenously to four, and intramuscularly to one. A relapse occurred in one patient treated orally with 55.5 mg. per kilogram of body weight daily for five days. In all patients receiving parenteral treatment, the temperature dropped within 24 hours, clinical signs disappeared gradually, and the blood was cleared of parasites within a few hours, in one case within 45 minutes. The importance of the blood sedimentation rate in the prognosis of relapsing fever is emphasized. Relapses occurred in four cases of nonspecific treatment in which the sedimentation rate did not return to normal levels after the fall of the temperature. Acquired hemolytic anemia, due to the action of the spirochetes, developed in two of the patients; this complication has not been reported before.

Cancer of the Breast in Israeli Women.—A statistical study of cancer of the breast in Israeli women revealed that it occurs with a frequency about twice that given in the literature for other countries. During the years 1945-1947, 1,760 malignant tumors were found and 394 cases (22.3%) were of cancer of the breast. Only 9% of the women were of Oriental origin, while the proportion of these women in the whole population was 26% in the period under survey. Eleven per cent of the women were unmarried or married but sterile. The author believes that the increase of breast cancer is a result of late marriage and limited fertility. Where birth control is being practiced, it has been accompanied by an increase of mammary cancer. Figures of success rate in cancers of stage 1 and 2 are compared with results reported in the American literature. The somewhat higher success rates in Israel are attributed to the fact that Israeli women consult their physicians early.

Journal of Laryngology and Otology, London

67:377-436 (July) 1953

- Surgery of Temporal Bone. T. Cawthorne.—p. 377.
- Fenestration and Anatomo-Physiological Essentials for Its Success. C. A. Hutchinson.—p. 392.
- Late Results of Treatment by Interstitial Irradiation of 100 Cases of Carcinoma of Bronchus. F. C. Ormerod.—p. 406.
- Lingual Thyroid. H. W. Schwartz.—p. 417.

Lancet, London

2:1-48 (July 4) 1953

- Viral Vaccines and Human Welfare. H. R. Cox.—p. 1.
- Quantitative Assessment of Disability in Mitral Stenosis. J. P. P. Stock and M. C. S. Kennedy.—p. 5.
- Is Scalp Ringworm in Children a Self-Limiting Disease? An Epidemic of Unusually Mild Form Produced by Microsporum Audouini, Dysgonic Type. C. H. Whittle.—p. 10.
- Mechanism of Lowered Renal Threshold for Glucose in Diabetes. J. A. Robertson and C. H. Gray.—p. 12.
- Renal-Function Tests in Renal Glycosuria Including Observations During Pregnancy. J. A. Robertson and C. H. Gray.—p. 15.
- Resistance to d-Tubocurarine Chloride in Presence of Liver Damage. J. W. Dundee and T. C. Gray.—p. 16.
- Idiopathic Hypercalcaemia of Infants. R. D. G. Creery.—p. 17.
- Effects of Forceps Delivery on Child. H. R. MacLennan, A. B. Hay and M. L. Paterson.—p. 19.

2:49-98 (July 11) 1953

- Prevention of Dust Diseases. A. I. G. McLaughlin.—p. 49.
- *Folic-Acid Excretion Test in Investigation of Intestinal Malabsorption. R. H. Girdwood.—p. 53.
- *Hyperpotassaemic Paralysis. G. M. Bull, A. B. Carter and K. G. Lowe. —p. 60.
- Early Results of Resection for Pulmonary Tuberculosis. J. Dark and P. Jewsbury.—p. 64.
- Amino-Aciduria in Lead Poisoning: Case in Childhood. V. K. Wilson, M. L. Thomson and C. E. Dent.—p. 66.
- Pneumococcal Meningitis: Skull Defects as Aetiological Factor. W. H. Galloway and W. Chambers.—p. 68.
- Primary Amyloidosis: Presenting with Peripheral Neuritis and Intractable Heart-Failure. S. J. Strich and G. Wade.—p. 70.

Folic Acid Excretion Test in Intestinal Malabsorption.—Girdwood points out that the term "sprue syndrome" has been used recently to include the features found in idiopathic steatorrhea of nontropical origin and in celiac disease. Since the introduction of the fat balance test of Cooke in 1946 it has been extended to include cases with megaloblastic anemia and deficient absorption of fat, but little other clinical evidence of intestinal malabsorption, and the term "malabsorption syndrome" has come into use. The seeming paradox of treating a condition believed to be due to malabsorption of hemopoietic factors by giving these same substances orally has led to the hypothesis that the fault in nontropical sprue is malabsorption of naturally occurring folic acid conjugates rather than of folic acid itself. The present investigation indicates that there is, in fact, considerable deficiency of absorption of folic acid in sprue, and that advantage can be taken of this to devise a test of folic acid absorption and excretion for the diagnosis of malabsorption by the small intestine. The author describes a comparison of urinary excretion of folic acid following subcutaneous and oral test doses of 5 mg. of folic acid in 11 cases of intestinal malabsorption, 15 cases of pernicious anemia, 14 controls, and 5 patients with pregnancy anemia. This test revealed impairment of absorption of folic acid only in patients with the malabsorption syndrome or with iron-deficiency anemia refractory to therapy with iron by mouth. Megaloblastic anemia of pregnancy subsequently responding to folic acid therapy may occur without biochemical evidence of a failure in absorption or tissue depletion of folic acid. Since it may be necessary in intestinal malabsorption to load the tissues with injected folic acid before performing the differential folic acid excretion test, time may be saved by doing this in all instances before the test is carried out. From the laboratory point of view a fat balance test is easier to perform, but it requires hospitalization of the patient so that a suitable diet can be given and its consumption supervised, and furthermore the stools must be collected for several days. The differential folic acid excretion test may be of particular value where steatorrhea is not obvious and there is refractory megaloblastic anemia, refractory iron-deficiency anemia, or unexplained glossitis. If further work confirms the value of the folic acid excretion tests, the diagnosis of sprue should, at least in some instances, be rendered easier in that special diet is not required and specimens of urine can be sent for assay from other hospitals to laboratories in which folic acid tests are being done. It is not yet possible to say whether a positive fat-balance test may be associated with a negative folic acid excretion test in the "malabsorption syndrome."

Hyperpotassemic Paralysis.—According to Bull and associates, much has been written in recent years about the dangers of a high concentration of potassium in the plasma, especially in the anurias, in Addison's disease, and following the administration of potassium. The greatest danger of hyperpotassemia is, of course, that of sudden death from cessation of heart action in diastole. Other features of hyperpotassemia are lassitude and clouding of consciousness, although these do not always occur. Finally, flaccid paralysis occurs rarely. The authors cite three patients with hyperpotassemic paralysis. In the first of these patients the paralysis recurred several times in the terminal stages of a subacute glomerulonephritis. In the second patient this symptom was present during an Addisonian crisis, from which he was rescued by appropriate therapy. The third patient, with renal failure due to renal tuberculosis, presented the symptom in the last days of illness. The mechanism of hyperpotassemic paralysis remains obscure, but it is suggested that it is an acute peripheral neuropathy.

Medical Journal of Australia, Sydney

1:721-756 (May 23) 1953

Accidents in Anaesthesia. C. N. Paton.—p. 721.
*Treatment of Carcinoma of Prostate with New Oestrogen, "TACE." H. Mortensen.—p. 728.
Common Eye Diseases in General Practice. A. Lamb.—p. 731.
Cystic Disease of Lungs. C. G. Bayliss.—p. 732.
Use of Pharmacological Relaxants in Psychiatry. S. P. Derham.—p. 736.

1:757-796 (May 30) 1953. Partial Index

Old Age: Clinical, Social and Nutritional Survey of Seventy Patients Over 65 Years of Age Seen in Hospital Out-Patient Department in Melbourne. E. G. Saint, H. F. Abrecht and C. N. Turner.—p. 757.
Exchange Transfusion and Transfusion in Infants and Young Children. J. C. A. Dique.—p. 764.
Observations on Leptospirosis in Victoria. W. J. Stevenson, L. Hayes, A. A. Ferris and N. A. M. Wellington.—p. 770.
Hydatid Disease at Royal Hobart Hospital. K. J. Friend and E. A. Lennon.—p. 772.

New Estrogen in Treatment of Carcinoma of Prostate.—When estrogen is used in the treatment of prostatic cancer, not only do the pressing clinical symptoms disappear and the metastases retrogress but microscopic examination of sections of the prostate after treatment may reveal no evidence of carcinomatous cells but rather a washed-out structure of large enucleated cells. It is now regarded that at least a contributory factor, if not the real cause of the relapse, in prostatic carcinoma being treated by estrogens, is hyperactivity of the hormonal phase of adrenal function. It has been proved experimentally that the continuous administration of the usual estrogens to laboratory animals causes enlargement of the pituitary and the adrenal glands. In the search for estrogens that did not have this stimulating effect on the adrenal and pituitary, studies were made with the estrogen chlorotrianisene (TACE). Although this drug produces characteristic estrogenic effects, it differs from diethylstilbestrol and hexestrol in that it does not have the same pronounced effect on the pituitary and the adrenals. The author cites animal experiments with this drug and describes his own clinical experiences with it. He has used the drug for only a short time and in a small number of cases. At first it was given in cases in which no further improvement could be achieved with estrogens commonly used. In other cases, the change to the new estrogen was made because of the painful and embarrassing manifestations of gynecomastia. The large, painful breasts and tender nipples in persons who take diethylstilbestrol over a long period of time often compel the reduction of the dosage, or the patient himself will cease taking the drug. The use of the new estrogen has invariably resulted in an amelioration of these distressing symptoms, and when used immediately after diagnosis, no evidence of feminization has been found or it has been very slight. The property of fat storage exhibited by the new estrogen seems to explain why it has a more prolonged effect. Because the drug is liberated slowly, the patient with prostatic cancer may develop a more constant level of estrogenic stimulation, which is more effective than the varying amounts of stimulation that follow the treatment with the estrogens in common use up to now.

Minerva Medica, Turin

44:1389-1436 (May 26) 1953. Partial Index

*Value and Limitation of Needle Biopsy in Diagnosis, Prognosis and Therapy of Hepatopathy: Personal Studies and Synthetic Review. M. Fazio and G. C. Angela.—p. 1389.
New (Preoperative) Laparoscopic Cholangiography by Means of Transparietal-Hepatic Puncture of Gallbladder: Preliminary Report with Description of Two Cases. M. Blanche and F. Muratori.—p. 1409.
Analysis of Alterations of Electrophoretic Serum Tracings in Patients with Hepatopathy: Suggestions for Their Physiopathological and Clinical Evaluation. E. Poli, R. Caspani, S. Jucker and A. M. Villa. —p. 1414.

Needle Biopsy of Liver.—The authors performed 108 needle biopsies of the liver with the technique of Iversen and Roholm in 77 patients. The biopsy diagnosis was confirmed by autopsy in all but one of the patients who died. This patient was a heavy drinker in whom diagnosis of pernicious anemia with indications of fatty cirrhosis of liver had been made. Autopsy revealed instead alcoholic steatosis with an occasional mesenchymal reaction of the portal-biliary spaces. The results of liver function tests coincided with the histological picture of the biopsy specimens in many patients, especially in those with nonfatty cirrhosis and neoplasms. Biopsy was the decisive diagnostic factor in patients with fatty cirrhosis and pure steatosis. Needle biopsy of the liver is indicated in all liver diseases of undetermined cause, in differential diagnosis between parenchymal and extrahepatic obstructive jaundice, and in primary or metastatic neoplasm of the liver. It is valuable in determining the type of cirrhosis present and in evaluating the course of chronic hepatitis and the effects of therapy in liver disease. Histological examination of serial biopsy specimens may reveal improvement in some instances in which laboratory tests do not reveal an improvement. Needle biopsy of the liver may also help in the diagnosis of some systemic disease. In fact, the changes that occur in the liver during infectious mononucleosis, diabetes, pellagra, and amyloidosis have already been studied by other authors. It is contraindicated in patients with a low prothrombin level. The authors never performed it in patients whose prothrombin concentration, as determined by Quick's method, was not above 40% of the normal. It is also contraindicated in patients with septic cholangitis, hepatic echinococcosis, bacterial or amebic abscesses, and ascites. Uncooperative patients and children are also, as a rule, excluded. The severest complication of needle biopsy of the liver is fatal hemorrhage. This is rare, and occurs mainly in patients in whom the prothrombin concentration was not considered. The authors had no complications in their patients.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

97:1241-1304 (May 16) 1953. **Partial Index**

Recent Developments in Eclampsia Problem. J. L. Mastboom.—p. 1250.
*Habitual Abortion Resulting from Wide Uterine Isthmus (Internal Uterine Os). L. I. Swaab.—p. 1257.
Action of Isioniazid. H. L. Wolff.—p. 1262.

Habitual Abortion Caused by Wide Uterine Isthmus.—Swaab presents the case of a woman, aged 37, whose three previous pregnancies had resulted either in abortion or premature labor, despite treatment with vitamin E, progesterone and stilbestrol. Examination disclosed an abnormally wide internal uterine os and a lengthening of the isthmus, which had resulted from a previous curettage. In such cases the external uterine os is not necessarily ruptured and the uterine cervix when examined through a speculum may appear to be intact. The author shows the roentgenologic shadow of such a uterus side by side with that of a normal one, and he also shows a diagram of a cross section of such a uterus. The condition can be recognized when a uterine dressing forceps passes the internal uterine os (isthmus uteri) without difficulty. Rupture of the membranes prior to the onset of labor is characteristic of this condition. In the reported case the condition was corrected by surgical treatment, in which the cervix, particularly at the level of the isthmus, was narrowed with the aid of catgut sutures. Favorable results obtained by others with this intervention indicate a favorable prognosis.

Nordisk Medicin, Stockholm

49:769-802 (June 5) 1953. **Partial Index**

Use of Fruit Powder in Pediatrics in Treatment of Diarrhea. H. Keiser-Nielsen.—p. 803.
*Fetal Asphyxia and Its Treatment. F. Holtz.—p. 805.
Toxoplasmosis. E. Jacobsson.—p. 815.
*Long-Acting ACTH in Bronchial Asthma in Children. C. G. Bergstrand, I. Engström and S. Kraepelien.—p. 817.
Congenital Leukemia. F. Karlström.—p. 819.

Fetal Asphyxia and Its Treatment.—Fetal asphyxia occurred in 833 (2.25%) of 37,000 deliveries in the gynecologic department of the Södersjukhus from 1943 to 1951; 545 of the mothers were primiparas. In almost half the cases the fetal asphyxia was caused by prolonged labor; in one-third of the cases it was due to abnormally intensive uterine contractions. The commonest symptoms were changes in the rhythm and frequency of the fetal sounds and discharge of meconium. Ninety-eight cases (11.8%) were fatal. Treatment consists in the first place in prophylactic measures to promote delivery before fetal asphyxia occurs. Intense pains threatening to cause fetal asphyxia can be subdued by narcosis and confluent pains be limited by injections of morphine. Fetal mortality is decreased by more active management of labor. Interventions necessary to save the life of the fetus play an important part in the prognosis. If an intervention is not possible, heart activity may be stimulated by injections of heart stimulants to the mother. Asphyxia after birth is treated according to the nature of the case. In 553 cases removal of mucus from the respiratory passages gave good results. Cyanosis in 144 cases in which the infant was blue was treated by various measures, including agents stimulating heart and respiratory activity, with favorable results, and in 38 of the 79 cases in which the baby was white treatment with artificial respiration, heat, and oxygen was successful.

Long-Acting Corticotropin in Bronchial Asthma in Children.—Bergstrand and his associates administered corticotropin (ACTH) with prolonged action to 11 children, aged from 5 to 13, with grave asthma of long standing resistant to the usual antiallergic treatment. Thirteen asthmatic children, aged from 4 to 14, were treated with the regular corticotropin preparation. If a rapid corticotropin effect is desired in asthmatic attacks endangering life, regular corticotropin is preferred. To break a long-continued status asthmaticus, treatment with either the regular or the long-acting corticotropin can be applied with about the same favorable temporary effect, improvement as a rule setting in more slowly with long-acting corticotropin. With this preparation, however, ambulant treatment is possible, which means a limited number of injections, at intervals of days, and a comparatively small dose, reckoned by the day, and allows treatment for longer periods without too great danger of side-effects.

Policlinico (Pract. Sect.), Rome

60:841-872 (June 15) 1953

Toxic Action of Chlortetracycline (Aureomycin) in Guinea Pigs. F. Giunchi, A. Fidanza, L. A. Scuro and others.—p. 841.
*Gamma Globulin, a Blood Derivative, in Therapy. V. Lamarca.—p. 847.
Subcutaneous Calcification with Rare Course: One Case. L. Cancellotti. —p. 853.

Gamma Globulin in Therapy.—One of the latest discoveries in the field of immunology is the identification of antibodies with gamma globulin of human serum. This achievement explains the increased emphasis on and interest in this important blood derivative. Gamma globulin was first used as a prophylactic against measles in 1938. It prevented the onset of the disease if it was inoculated within five days from the date of exposure and gave only partial immunity if it was given later. It proved especially valuable in children in poor general condition with tuberculosis and acute respiratory disease who had been exposed to the infection. Passive immunization lasted for two to three weeks, with the patient's age, degree and duration of exposure, virulence of the virus, and individual condition of immunization playing a great part on the outcome of the therapy. Since gamma globulin contains not only specific antibodies against measles but also a wide range of other antibodies, it was later used for passive immunization against other infections. It gave good results in whooping cough, epidemic parotitis (by preventing onset of orchitis), epidemic or infectious hepatitis, and post-transfusion hepatitis. It was used later in sepsis of infants and roseola infantum. The greatest usefulness of gamma globulin, however, is as a prophylactic against poliomyelitis. This is based on the concept that most human beings overcome the infection without the paralytic symptoms that are characteristic of the disease. This occurs because the virus enters the organism but does not reach the nervous tissue. The infection thus does not become manifest, but specific antibodies are formed. Preliminary reports from the United States, where research studies and experiments are being carried out on a large scale, indicate that passive immunization against poliomyelitis was secured with gamma globulin for at least five weeks. These results are encouraging, but a longer period of observation and further studies are needed for a final evaluation.

Presse Médicale, Paris

61:863-880 (June 17) 1953

Experimental and Clinical Study of a New Chemotherapeutic Agent in Tuberculosis (Glycuronolactone Isonicotyl-Hydrazone). G. Brouet, B.-N. Halpern, J. Marche and J. Mallet.—p. 863.
Value of Skin Thermometry in Investigation of Various Conditions, Especially Vascular Disturbances in the Limbs. G. Tardieu and M. Garoit.—p. 866.
Simultaneous Study of Skin and Muscle Temperatures in Normal Subjects. J. Oudot, J. Natali and C. Marceau.—p. 868.
The Focal Lesion: Pathological Manifestation of a Neurovegetative Injury. A. Bernard.—p. 872.
New Conceptions of Physiopathology and Treatment of Tissue Lesions of Vasomotor Origin, Especially in Relation to Arteritis. H. Reboul, P. Laubry and L. Vergoz.—p. 875.
*Prolonged Sleep Treatment in Medicopsychiatric Practice by So-Called Hibernation Method. A. Deschamps and M. Cadoret.—p. 878.

Prolonged Sleep (Hibernation Method) in Psychiatric Medical Treatment.—Prolonged sleep as used by the authors differs from artificial hibernation because it is induced principally by drugs, and refrigeration is used merely as a supplementary measure. The depth of the sleep and the duration of the treatment are less important than the degree of relaxation secured.

Treatment by this method proved safe even in aged, hypertensive, and cardiac patients. Strict medical supervision is required, and the ganglion-blocking agents used to obtain neurovegetative inhibition should be withdrawn gradually at the close of the treatment. The sleep produced is calm, and the patients are relaxed and indifferent. Breathing is regular, the pulse is usually normal, and there is almost always a drop in the blood pressure. Prolonged sleep was used in treating 15 patients with various psychiatric conditions who had not been benefited by other methods of treatment or whose general condition was too poor for shock therapy. The best results were secured in patients who had symptoms of agitation and confusion and severe melancholic anxiety, but substantial improvement was also noted in patients with mania.

61:881-900 (June 20) 1953

*Statistical Study of Late Results of Surgical Treatment of Epilepsy. J. Guillaume, G. Mazars and Y. Mazars.—p. 881.
"Filled Up" Tuberculous Cavities of the Lungs. A. Bernou, J. Tricoire and J. Tournier.—p. 883.
Nocturnal Acroparesthesias and Their Treatment by High Frequency Currents. R. Lacassie.—p. 884.

Late Results of Surgical Treatment of Epilepsy.—Of 110 patients between the ages of 4 and 49 years who had focal cortical epilepsy demonstrated by an abnormal electrical activity originating from a limited point or zone of the cerebral cortex and who had been operated on and followed up postoperatively for from six months to four years, 82 had obtained good or excellent results. Of the 82 patients, 27 no longer had convulsions despite complete discontinuation of drugs, and they did not have any sequelae; 27 patients had no sequelae and no longer had convulsions but still required administration of a reduced dose, 0.10 gm., of phenobarbital sodium; 9 patients no longer had convulsions but persistent neurological sequelae that were compatible with a good social readaptation; the remaining 19 patients had one or two attacks of convulsions in the course of one year. Twenty-three patients were improved having less attacks of convulsions despite the administration of a reduced dose of drugs as compared to the time before the surgical intervention. Five patients were therapeutic failures; one died, one became worse, and three were unchanged. The author emphasizes that the patient operated on had had persistent attacks of convulsions despite prolonged treatment with antiepileptic drugs. The selection of patients for surgical intervention was based essentially on electroencephalographic criteria. Surgical intervention was carried out under corticographic control following excision step by step until any abnormal electrical activity had disappeared. Partial or complete therapeutic failures were essentially due to the impossibility of proceeding with the resection of the epileptogenous cortical area without running the risk of producing some motor weakness, sensorial diminution, or a disturbance of speech when a significant zone of cortical representation had been invaded by the eliptogenous area. Considering the benign character of the surgical intervention and the favorable results obtained in patients with severe cortical epilepsy, it seems justified to extend surgical treatment to less serious cases provided that the electroencephalographic criteria prove particularly favorable. By extending the indications for surgical intervention it may be possible to detect and to apply treatment to a tumor with a slow course whose only clinical manifestation consists of a convulsive state.

Riforma Medica, Naples

67:597-624 (May 30) 1953

Surgical Treatment of Tumors of Bladder. M. Sorrentino.—p. 597.
Procaine Amide in Therapy of Supraventricular Paroxysmal Tachycardia. A. Tommaselli.—p. 601.
*Insufficient Use of Active Therapy in Chronic Pulmonary Tuberculosis. G. Censi and P. Maraschio.—p. 607.

Inadequate Treatment of Chronic Pulmonary Tuberculosis.—Although the mortality rate for pulmonary tuberculosis in Italy has decreased, the average period of treatment and hospitalization for patients with the disease has increased. Therapy with antibiotics did bring about rapid and frequent recoveries, but sooner or later there were relapses with more and larger cavities that prolonged the course of the disease. Incompetence of the phthisiologist in selecting the best treatment, inadequate psychological preparation of the patient, inadequate surgical equipment, and economic factors are responsible for this discouraging situation. Chronic cavities can be eliminated definitively with proper and timely surgery. Divergencies that arise on the selection of the best surgical procedure are easily eliminated if treatment is individualized and the method that guarantees the best results with the least risk is applied. Pulmonary resection and collapse therapy are the treatment of choice in chronic pulmonary tuberculosis. The former is especially indicated in patients whose lung tissue is destroyed, those with stenosis of the main or the lobar bronchus, and those with tuberculoma. The collapse therapy should be employed in patients in whom the resection is contraindicated. It gives better results than intrapleural or extrapleural pneumothorax. A review of the literature revealed that, of 100 patients in whom pulmonary resection was performed after streptomycin became available, only 7 had died within three years, whereas, of 100 patients who were treated medically in sanatoriums before the antibiotic era, only 24 were still living five years later. Of 100 patients in whom pneumothorax was induced before streptomycin became available, 45 died within five years, whereas, of 100 in whom lobectomy or pneumonectomy was performed, only 13 had died two to four years later. Approximately 90% of the patients with chronic pulmonary tuberculosis can be cured with pulmonary resection, if it is performed before any other surgical treatment and before resistance to antibiotic therapy has developed.

Schweizerische medizinische Wochenschrift, Basel

83:551-570 (June 13) 1953

Chemotherapy of Tuberculosis. H. Staub.—p. 551.
*Endangiitis Obliterans of Kidney and Hypertension. H. Fellmann and H. U. Zollinger.—p. 556.
Type and Form of BCG Skin Lesion. F. Puntigam and K. Berger. —p. 559.
*Hormonal Regulation of Dentition. L. J. Baume.—p. 560.

Endangiitis Obliterans of Kidney and Hypertension.—Fellmann and Zollinger report two patients with endangiitis obliterans and involvement of the kidneys. In one of these the blood pressure remained normal while the necropsy revealed very extensive, but rather recent renal infarcts. The second patient died with signs of malignant hypertension. In this patient, autopsy disclosed multiple fresh renal infarcts interspersed with ischemic areas of the parenchyma. The latter were apparently result of subtotal arterial obliteration by endangiitic lesions. The authors point out that for decades after endangiitis obliterans had been described by von Winiwarter and Buerger, it was considered chiefly a disease of the arteries of the extremities. During the last two decades more and more observers have called attention to the involvement of vessels of parenchymatous organs. The existence of "coronary" Buerger's disease has been established beyond a doubt, and cerebral involvement has likewise been established. Reports about endangiitis obliterans of the kidney have been so far rare.

Hormonal Regulation of Dentition.—Baume chose the incisors of rats to study the hormonal regulation of dentition. These have the advantage that the eruption is continuous and is not limited to a certain period as is the case in human beings. The following three experiments were made: 1. Thyroidectomy was done on the day of birth, and subsequently the animals were treated with growth hormone and thyroxin. 2. Hypophysectomy was done on the 28th day and the animals were observed for various periods of time. 3. Growth hormone and thyroxin were administered following hypophysectomy. It was found that hypophysectomy had a more decided effect on dentition than did thyroidectomy. The hypophysis influences dentition not only by its thyrotropic, but also by its growth hormone. Thyroid hormone and hypophyseal growth hormone have fundamentally differing effects on dentition. Thyroid hormone influences the size as well as the eruption of the tooth and is the most important hormonal factor in dentition. It has a specific effect on histological differentiation of the epithelium and is capable of inducing the formation of bone tissue in the growth cartilages; for this reason it has been designated as the maturation hormone. Its general stimulating effect on the metabolism produces increased vascularization in the dental tissue. While the growth hormone has a much more decisive effect on the size of the tooth than does thyroxin, it is not able to promote tooth eruption following hypophysectomy. As an activator of the protein metabolism thyroxin has a stimulating effect on all mesenchymal tissues and has a special affinity for the cartilaginous growth disks. In the described experiments this became manifest in the activation of pulpa growth, in dentinogenesis and in the membranous bone growth of the alveolar process. The mechanism of tooth eruption cannot be completely dissociated from growth, in that proliferation of the odontogenic tissue is the basic process, and in this the growth hormone is most important. To insure that the tooth not only increases in size but also erupts, the dental and peridental tissues require a different tempo of growth. The organ which determines this differentiation is definitely the odontogenic epithelium, which is regulated by the thyroid hormone. Deficiency of this hormone causes disturbances in the proliferation of the odontogenic epithelium, and this in turn causes primary malposition of the tooth papillae and later inhibition of eruption. Retarded eruption of the tooth germ with continued root growth suggests mild hypothyroidism, provided that rickets, vitamin A deficiency and sternocleidocranial dysostosis can be ruled out. Treatment with thyroid extract will stimulate the eruption of these retained teeth, provided treatment is tolerated long enough. Generally retarded eruption with greatly retarded germ development is suggestive of cretinism, and requires on the basis of experimental observation combined administration of thyroid extract and growth hormone.

Semaine des Hôpitaux de Paris

29:1953-1986 (June 14) 1953.

*Efficacy of Massive Doses of Vitamin B_{12}. P. Chevallier.—p. 1953.
Treatment of Poisoning by Phosphoric Ester Insecticides. R. Fabre. —p. 1957.
Potassium Metabolism and Its Changes Following High Doses of *Desoxycorticosterone*. H. Naegeli, R. S. Mach and E. Mach.—p. 1959.
Electrical Data in Mitral Heart Disease: Clinical, Anatomical, and Operative Comparisons (115 Cases). E. Donzelot, R. Heim de Balsac, G. Dauzier and others.—p. 1968.

Efficacy of Massive Doses of Vitamin B_{12}.—Small doses of vitamin B_{12} may benefit convalescent patients and others whose need for the vitamin is not absolute, but when it is imperatively required, it should be given in massive doses. A single intramuscular injection of 1,000 mcg. of crystalline vitamin B_{12} has been found adequate to maintain a normal blood and marrow picture for from 128 to 358 days in 15 patients with pernicious anemia, indicating that the vitamin can be stored in the body. Similarly large doses have also proved effective in various neurological and rheumatological conditions, such as multiple sclerosis, polyneuritis, and trigeminal neuralgia. Vitamin B_{12} is well tolerated and, like other members of the vitamin B complex, entirely nontoxic, whether given orally or parenterally. Marked improvement and in some cases an apparent cure of progressive pernicious anemia has been secured by the daily administration of 1,000 mcg. When given intramuscularly, injections of 1,000 mcg. every other day are enough to produce satisfactory results in ordinary cases without severe nervous complications. The use of vitamin B_{12} in massive doses is economically advantageous because it shortens the period of hospitalization and frequently results in cure of the patient.

29:2061-2126 (June 22) 1953. **Partial Index**

Examination of Patient with Mitral Stenosis with a View to Operation. P. Soulié, R. Tricot and J. Di Mattéo.—p. 2063.
Preoperative and Postoperative Hemodynamic Study of Mitral Stenosis. J. Carlotti, J. Joly, J. R. Sicot and G. Voci.—p. 2079.
*Immediate Postoperative Results of Commissurotomy. Y. Bouvrain, P. Fortin and J.-L. De Vahia.—p. 2097.
*Late Results of Commissurotomy and Its Indications. P. Soulié, F. Joly, J. Carlotti and J. Baillet.—p. 2105.

Immediate Postoperative Results of Commissurotomy.—The immediate postoperative results of commissurotomy fall into three groups: (1) the inevitable disturbances and discomforts of the first few days after the operation; (2) complications of varying severity; and (3) deaths. The postoperative course in favorable cases is comparatively uneventful. Fever, which is constantly noted, is of short duration; the pain caused by the operative wound usually diminishes rapidly; pleural effusions require from two to five tappings; and the pericardial reaction is latent and can only be detected in roentgenograms. Patients may be allowed up in about a fortnight and can leave the hospital three or four weeks after the operation. Many continue to have parietal pain in the scapular region for some time and find it difficult to move the left shoulder. Disturbances of cardiac rhythm, thromboembolic accidents, and acute postoperative pulmonary edema are the principal complications observed during the first four to six weeks after surgery. The first two can often be corrected by appropriate treatment, but the third indicates that the operation aggravated an existing mitral regurgitation. No matter how great the skill and the experience of the surgeon, there are cases in which the valves are so profoundly altered and ineffective that intervention will inevitably increase the systolic reflux. Postoperative deaths may be due to embolism, cerebral thrombosis, or the existence of irremediable changes in the mitral valve. A syndrome of cyanosis during surgery and postoperative collapse causing death within 48 hours has also been observed. This syndrome apparently occurs when mitral stenosis is accompanied by high pulmonary hypertension with an elevated arteriocapillary pressure gradient and extensive pulmonary lesions. Autopsy showed the lungs of patients in whom this was observed to be hypervascularized, brownish, firm, and resistant. All efforts at therapy were ineffectual, and the appearance of cyanosis at the beginning of anesthesia should be taken as an indication for abandonment of the operation.

Late Results of Commissurotomy and Its Indications.—Four classes of patients with mitral stenosis may be subjected to commissurotomy. Class 1 includes patients with little functional disturbance in whom cardiac catheterization shows elevated pressures and in whom electrocardiography indicates that the right side of the heart is being subjected to strain. Commissurotomy in these patients is a preventive measure and the mortality accompanying it should be negligible. Patients in class 2 have severe dyspnea or suffer repeated attacks of pulmonary edema. The hemodynamic disturbances revealed by catheterization of these patients are severe, and their functional incapacity is complete. Commissurotomy gives excellent results in three-fourths of these cases, and the operative mortality does not exceed 4%. The operative indications in class 3 patients are the most difficult to determine. Functional disturbance is severe, and mitral stenosis has usually resulted in the first stages of cardiac insufficiency. The operative risk in these patients is great and results in a mortality rate of from 15 to 20%; excellent results, however, are sometimes obtained. Class 4 patients are those with total arrhythmia, severe heart failure of several months' or years' duration, and greatly enlarged hearts; their condition is sometimes improved by the operation, but the operative mortality is very high. Commissurotomy should not be a routine procedure in mitral stenosis; the benefit to be expected from it and the risks accompanying it should be carefully evaluated with due regard for the fact that in spite of their disability many patients with mitral stenosis reach the age of about 60 with medical treatment alone.

Tidsskrift for Den Norske Laegeforening, Oslo

73:437-476 (June 1) 1953. **Partial Index**

*Prognostic Significance of Small Tumor in Cancer of Breast. L. Kreyberg and T. Christiansen.—p. 437.
Medical Control of Hospital Personnel Exposed to Radiation. P. Sundby. —p. 440.
Cancer of Cervix as Complication in Delivery. K. W. Skarsten.—p. 448.
Cystic Pyeloureterocystitis. A. Sanderud.—p. 449.

Prognostic Significance of Small Tumor in Cancer of Breast.—In Kreyberg and Christiansen's 974 cases of cancer of the breast examined from 1933 to 1942, which allowed at least 10 years' observation of the later fate of the patients, there were only 56 carcinomas (5.7% of the entire number) of the size of a hazel nut or smaller, and only 10 were as small as a pea or a bean. The authors conclude that over half of the patients with cancer of the breast having a tumor of the size of a hazel nut or smaller will succumb to the disease after receiving the treatment applied today. This is true even for the smallest tumors in the series; of the 10 patients with such tumors 5 are living after 10 years and 4 have died from metastases. The minimal cancers of the breast do not as a group definitely give a better prognosis than does an ordinary average group of cancers of stage 1 and stage 2 that receive the same treatment.

Tubercle, London

34:151-178 (June) 1953

Use of Benemid to Enhance Blood-Levels of Sodium Para-Aminosalicylate (PAS). J. A. McLeod, F. W. A. Turnbull and J. W. Crofton.—p. 152.
Correlation of Quantitative Mantoux Reactions with Clinical Progress in Pulmonary Tuberculosis. H. M. Turner.—p. 155.
Two Cases of Neutropenia in Children Possibly Due to Streptomycin and P.A.S.A. Therapy. R. Wilder.—p. 163.

Ugeskrift for Laeger, Copenhagen

115:879-918 (June 4) 1953. **Partial Index**

*Poliomyelitis Epidemic in Copenhagen in 1950. R. Bjerglund and H. O. Bang.—p. 879.
*Cardiac Affection in Poliomyelitis. J. Georg, T. Hilden and B. Vimtrup.—p. 886.
Progressive Exophthalmus: Muscular Changes and Thyrotropin Content in Serum. G. Asbol-Hansen, K. Iversen and R. Wichmann.—p. 889.
Cause of Appendicitis. S. Müller.—p. 895.
Allergic Children: Work in Rigshospital's Polyclinic with Children with Allergic Diseases and Value of Cooperation with Physicians Sending Children. K. Wilken-Jensen.—p. 897.
Cancer in Middle Ear. H. K. Kristensen.—p. 899.
Application of Serum and Vaccine Against Tetanus. H. Andersen.—p. 906.

Poliomyelitis Epidemic in Copenhagen in 1950.—From late June, 1950, to the end of the year 110 cases of paralytic and 636 cases of nonparalytic poliomyelitis were treated in Blegdam Hospital. Children predominated, and there was a slight preponderance of males in the nonparalytic cases. The frequency of paralysis, in 15% of the entire group, the degree of severity, and the mortality increased with increasing age. Pregnancy seemed to increase morbidity and frequency of paralysis. There were also 136 cases of probable poliomyelitis, and 19 cases of polyradiculitis are considered because of their occurrence during the epidemic period. The epidemic curve reached its peak in September. The epidemic curve for polyradiculitis corresponded to that for poliomyelitis, but the age average was higher than that in poliomyelitis.

Cardiac Affections in Poliomyelitis.—In the opinion of Georg and his associates a specific myocarditis may perhaps occur in some cases of poliomyelitis, but the majority of the histological and electrocardiographic changes described in this disease can undoubtedly be explained as results of anoxia and disturbances in the pulmonary circulation in patients with respiratory difficulty.

Wiener medizinische Wochenschrift, Vienna

103:449-490 (June 20) 1953. **Partial Index**

*Peripheral Endobronchial Plasmacytoma of the Lung with Hypertrophic Osteopathia. A. Plenk and K. Pretl.—p. 450.
Pendiomid-Ciba 9295, a Ganglion-Blocking Substance, in Urologic Diseases and Operations. H. F. J. Weber.—p. 451.
Plastic Surgery with Direct Pedunculated Cutaneous Flap. J. Böhler.—p. 453.
Spontaneous Pneumothorax. L. Neuner.—p. 455.
*Pheochromocytoma and Hypertension. H. Hartl.—p. 467.

Plasmacytoma of the Lung.—The occurrence of an extramedullary plasmacytoma of the lung, a relatively rare tumor, is reported in a 16-year-old girl. For about one year the patient had transitory painful swellings of the fingers, occasional pains in the arms and legs, occasional night sweats, and lancinating pains in the area of the right shoulder on respiration. A round shadow the size of an apple was demonstrated on roentgenologic examination in the area between the middle and lower lobe of the right lung. The blood count revealed normal number of erythrocytes and leukocytes; changes of the albuminoid bodies could not be demonstrated. Roentgenologic examination of the skeleton revealed stratified periosteal bony cuffs on the phalanges of the fingers and on the metacarpal bones of the hands, as well as on the ulna and on the radius. An endobronchial plasmacytoma of the lower lobe of the right lung was removed by lobectomy. The postoperative follow-up was much too short for the morphological disappearance of the new growth of bone, but the patient no longer complained of pain. The hyperplastic osteopathy is a valuable symptom in the diagnosis of pulmonary tumors. Microscopic differentiation between metastasizing and benign tumors is not possible. New foci may occur by metastasis despite the distinct demarcation of the plasmacytoma. Radical treatment by surgical removal of the tumor is advocated.

Pheochromocytoma and Hypertension.—According to Hartl, the incidence of pheochromocytoma is higher than it is generally assumed. Hypertension may be caused by a pheochromocytoma in about 0.5% of all patients with hypertension. Paroxysmal episodes of hypertension are not the only characteristic of pheochromocytoma, since in most patients the tumor may cause a persistent, labile hypertensive state. Pheochromocytoma should be thought of in the differential diagnosis of a patient with hypertension. Diagnosis of pheochromocytoma may be aided by the modern chemical tests with such substances as histamine, metacholine chloride, epinephrine, or tetraethylammonium chloride. These tests are not specific for pheochromocytoma and not free of risk. Tests with adrenolytics, such as Dibenamine (N,N-dibenzyl-β-chloroethylamine) hydrochloride may be of even greater aid in the diagnosis, but in the author's experience pneumoradiography of the retroperitoneal space after parasacral injection of air is the method of choice in demonstrating the tumor, because both adrenals may be visualized in one stage and the risk of air embolism is less than with the injection of air into the perinephric area. Surgical removal of the pheochromocytoma is not difficult, but the labile blood pressure makes the anesthesiologist's task difficult. Administration of Dibenamine preoperatively and in the course of the intervention may prevent a catastrophe due to liberation of epinephrine caused by manipulation of the tumor. Arterenol provides protection against reactive hypotension. Despite the microscopically benign findings, pheochromocytoma should be designated as "functionally malignant," since death may result within a short time if surgical removal is not carried out. Seven illustrative cases are described in five men between the ages of 20 and 42 and in two 30-year-old women. In one of these the tentative diagnosis of pheochromocytoma could not be confirmed on necropsy. Three patients, one of them with a mixed type of pheochromocytoma and adrenal cortex tumor, made a complete recovery after surgical removal of the tumor.

Ztschr. f. d. ges. innere Medizin, Leipzig

8:333-380 (April 15) 1953. **Partial Index**

Resorption, Transport and Storage of Iron. K. Konitzer.—p. 333.
*Physiology of Blood Transfusion: Stress Effect. H. Möller and W. Wendland.—p. 339.
Clinical Forms of Endarteritis Obliterans and Its Differential Diagnosis. R. Julitz.—p. 343.
Laparoscopy: Its Importance for the Internist. K.-H. Straube.—p. 361.
Problems of Virus Influenza with Especial Consideration of Disorders of the Central Nervous System. A. Sylla.—p. 369.

Stress Effect of Blood Transfusion.—Möller and Wendland discuss the fate of some of the constituents of transfused blood, particularly of the protein, and the effects of the transfusion on the bone marrow, blood picture and circulation. They believe that blood transfusion produces a stress reaction. Determining the eosinophil counts of 10 patients, they found that in 8 the transfusion was followed by a noticeable decrease in eosinophils. They investigated the excretion of 17-ketosteroids in the urine in seven patients and found a noticeable increase following transfusion in five of these. Either a decrease in eosinophils or an increase in the elimination of corticoids was observed in 15 of 17 patients after blood transfusion. Possibly some of the effects of blood transfusion represent reactions typical of Selye's adaptation syndrome; these include changes in the blood and plasma volumes, disturbances in the permeability of the cell membranes and of the capillaries, increase in diuresis, changes in the blood pressure, in the proteins, in the blood picture and in the bone marrow. According to Selye, the picture of the adaptation syndrome rarely appears in the pure form, but it is partly obscured by the specific effect of whatever agent is active. This masking by the specific effect of blood transfusion makes evaluation difficult.

8:381-428 (May 1) 1953. Partial Index

Graham's Anastomosis in Gastrectomy. M. Steingräber.—p. 381.
Cytomorphologic Changes of Bone Marrow and Changes in Blood Protein Picture in Reticuloses. R. Emmrich and E. Perlick.—p. 401.
*Erythrocytopathia Punctata Granuliformis in an Adult. J. Brugsch and E. Tichter.—p. 411.
Is the Supreme Law of Physician "Nil nocere" Compatible with Use of Manzullo Test? Question of Tellurite Poisoning. C. B. F. W. Ahrens.—p. 418.
Influence of Antibiotics and Chemotherapeutics on Biliary Pigment Reactions. H. Gohr, T. Görges and F. J. Diensberg.—p. 421.
Primary Double Carcinomas. H. Wiesner.—p. 426.

Erythrocytopathia Punctata Granuliformis in an Adult.—Brugsch and Tichter describe a new entity to which they apply the term "erythrocytopathia punctata granuliformis." The disorder was observed in a woman, aged 42, but the authors feel that it is related to an anemia of the newborn, in which the erythrocytes are characterized by the presence of inclusion bodies, and which was described by Gasser and Willi. In the woman, whose history is presented, the erythrocytes of the peripheral blood disclosed spontaneous formation of Howell-Jolly bodies, appearance of normoblasts, target cells, macrocytes, and reduction in osmotic resistance. Although there was no aplasia of the spleen, as Gasser and Willi had observed in their cases, splenic dysfunction could be suspected in the presence of hepatic cirrhosis with severe changes in the blood proteins. Malformations of the blood vessels (multiple hemangiomas) and defective toes were present. These and other defects in a woman, who was born of consanguineous parents, suggest severe generalized cellular abnormalities, and it is suggested that a generalized disturbance existed in the synthesis of proteins or of ribonucleic acid. The granula of the lymphocytes also showed abnormalities. The authors feel that in their patient the hepatic disorder, hypothrombinemia, and changes in the blood proteins with gamma-hyperglobulinemia were of importance in the pathogenesis. Splenic disturbances in cases of this type presumably are not the essential cause, but only an important eliciting factor. The high nucleosidase content of the spleen might be related to the decomposition of erythroblastic nuclei in the bone marrow. Formation of defective erythroblasts with pathological protein and nucleoside formation would then promote the formation of Howell-Jolly-like bodies in the presence of dysfunction or even agenesia of the spleen.

8:477-524 (June 1) 1953. Partial Index

Contribution to Experimental Osteomyelitis and Its Treatment with Penicillin. G. Rothe and F. Flemming. —p. 477.
Clinical Significance of Methodology of Clearance for Functional Kidney Tests with Particular Consideration of Differentialdiagnostic Problems; Third Communication: Endocrine Diseases. H. Dutz.—p. 482.
*Clinical Observations of Side-Effects of Isonicotinic Acid Hydracid Preparations. G. Pickroth.—p. 494.
Behavior of Mineral Level in Blood Serum After Injection of Tetraethylammonium Bromide. H. Kleinsorge and K. Linde.—p. 499.

Side-Effects of Isoniazid Preparations.—Isoniazid was given first in doses of 10 to 15 mg. and later in doses of 5 to 6 mg. per kilogram of body weight, daily in four divided doses, to 147 adult patients with pulmonary tuberculosis of all types, including those with exudative pleurisy. Fatigue and somnolence were noted most frequently during the first days of treatment. In 6 patients these phenomena continued for three weeks. The incidence of these side-effects was higher with the dose of 10 mg. per kilogram of body weight than with the smaller doses. Fatigue and sleepiness in an 18-year-old girl were associated with refractory constipation and disturbances of micturition during the first five days of treatment. Sensations of burning, furred feeling, formication, smothering, and lancinating pains in hands and feet were observed in 16 patients. These paresthesias occurred after four weeks of treatment (14.5 gm. of the drug) at the earliest and after six months of treatment (73.9 gm.) at the latest. They occurred in 11 patients after three months of treatment. The paresthesias subsided very slowly. Administration of nicotinic acid amide, and a proprietary crystalline vitamin B_1 (Betabion) proved ineffective except in one patient. Twenty-one patients complained of dizziness, 5 of headache, and 11 of a sensation of pressure in the frontal region of the head. Seven patients had transient palpitation, and in one patient with arteriosclerosis complaints of an angina pectoris type required discontinuation of the drug. Eczema, rash, and pruritus occurred in six patients. Five patients complained of nausea and occasional vomiting during the first weeks of treatment; in one patient these side-effects recurred after three and a half months of treatment and required discontinuation of the drug. In only seven patients a serious condition developed consisting of mental confusion, meningism, circulatory disturbances, and polyneuritis. The author believes that there is a relationship between incidence and severity of the side-effects and the dosage of the drug and partly also of the type of the tuberculous disease. The side-effects probably depend on the length of time the drug is administered. Arteriosclerotic changes and previous damage due to drugs or disease may favor the occurrence of untoward reactions. A specific therapy does not seem to be effective. In two of the author's patients manifestations of polyneuritis did not subside for many months after discontinuation of the drug. The side-effects of isoniazid are not entirely harmless. Despite that, treatment in a hospital or sanatorium may be continued in ambulant patients provided that the patient's condition will allow it and definite control of the patient is guaranteed.

Ztschr. Tropenmed. u. Parasitol, Stuttgart

4:285-414 (June) 1953. Partial Index

Problems of Immunity in Malaria. E. G. Nauck.—p. 285.
*Arthropods as Hosts of Causal Agent of Q Fever (Rickettsia burneti). F. Weyer.—p. 344.
*Rabies: Morbidity and Mortality in Exposed Persons. L. Gremliza. —p. 382.

Causal Agent of Q Fever (Rickettsia burneti): Arthropods as Hosts.—Weyer describes experiments on bloodsucking arthropods to ascertain whether or not they were potential hosts of Rickettsia burneti and thus may become vectors of Q-fever. Ticks (Ornithodorus moubata), body lice, fleas, bedbugs, and larvae of meal worms were infected with rickettsial material by sucking or by intrarectal and intraperitoneal application. Whereas, under natural conditions, Rickettsia burneti is found only in various species of ticks, all of the above named arthropods proved more or less susceptible when experimentally infected. Rickettsias multiplied rapidly in the coeloma and intestinal cells without serious damage to the host; they also spread occasionally to other organs and were excreted with their virulence unchanged. Contrary to other rickettsias, Rickettsia burneti seems highly adaptable to various organs and cell types of heterogeneous arthropods, most of which, however, do not act as natural hosts, carriers, or transmitters. Considering the favorable conditions for the survival of Rickettsia burneti, one wonders why Q-fever is not more prevalent.

Rabies: Morbidity and Mortality in Exposed Persons.—Of 32 persons attacked by a rabid wolf in a rural district in Persia, 19 were bitten about the head, 3 on face and neck, and 10 on hand or arm. Four of the six who received antirabic treatment remained free from symptoms and two died. In the two treated patients who died symptoms of the disease were evident before treatment was begun. Of the 26 patients who received no antirabic treatment, 13 died and the other 13 remained free from symptoms and survived. The mortality rate was over 50% among the patients who had been bitten on face, scalp, or neck; in those who received bites on arm or hand the mortality was lower. The incubation period averaged 24 and 27 days after head and neck bites, respectively, and 45 days after arm and hand bites. It is pointed out that even severe lacerations caused by rabid animals do not necessarily lead to death when left untreated. Similar conclusions were reached by another investigator who reported on human rabies resulting from the bites of rabid wolves in February, 1952.

BOOK REVIEWS

Practice of Psychiatry. By William S. Sadler, M.D., F.A.P.A., Consulting Psychiatrist to Columbus Hospital and Pinel Sanitarium, Chicago. Cloth. $15. Pp. 1183. C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, 1953.

Dr. Sadler is one of the grand old men of American psychiatry, having begun his contributions to the literature more than 40 years ago. He has done much to popularize psychiatry, not only among the laity but among nonpsychiatric practitioners as well. In this contribution, he has attempted to give us a "book to serve as a ready and compact reference for diagnosis and immediate treatment." What he has given us actually is a great collection of data from his active professional life of many years. The result is an almost overwhelming collection of facts, theories, and personal opinions combined in an interesting style that belongs to another age of medical writing. One can hear Sir William Osler in the following quotation: "After two or three visits with the patient, I concluded there must be something on her mind, and, discerning to disposition on her part to disclose it, made bold to probe more deeply; finally, when she was asked whether she was worrying over autoeroticism or over some slip of propriety in her relations with her lover, she indignantly denied the latter and tacitly admitted to the former."

The final result is unique. The book is not a reference book, a textbook, or a manual, despite its attempts to be all these things; it is a compendium of psychological and psychiatric knowledge since the time of Adam. In this sense it is a historical survey of interest to psychiatrists and workers in this field but certainly neither a textbook for students of medicine nor a manual for practitioners. Dr. Sadler's book includes such interesting chapter headings as: "Psychiatry and Psychiatrists," "Mental and Emotional Mechanisms," "The Health and Happiness Pathoses," "What Is Personality?" "The Sexual System," "Therapeutic Study Program," "Philosophy and Religion," and "Will-Power and Decision." There are 75 chapters, a 40 page appendix, "Schools of Psychiatry," and an extensive glossary.

That such a work, covering almost 1,200 closely printed pages, must contain much that is questionable and must often consist of a synthesis of the thoughts of others is inevitable, because no one can have accurate and sensible ideas about every aspect of psychiatry. This does not criticize Dr. Sadler's abilities or honesty but only emphasizes the impossibility of the task he set for himself. In general, he can be criticized for neglecting reasonable explanations, or the causes of emotional illness, and substituting for them lengthy descriptions of psychopathology that may increase the student's knowledge but certainly do not help his understanding of psychiatric disease. In his discussion of involutional melancholia, Dr. Sadler does well in not relating the depressive aspects to hormonal changes directly, but he fails to give the reader a clear concept of why the patient becomes depressed at this period of his life. The author takes a wise and broad-minded view of sexual problems but again often stops at the descriptive level without giving a clear explanation of the causes. Interestingly the list of sexual perversions includes dyspareunia along with necrophilia, sodomy, and fellatio. This type of poor arrangement of data is seen repeatedly throughout the book. The chapter on personality is extensive and compiles many of the current theories; however, long quotations from Bluemel, with attempts at explaining the lives of Napoleon, Joan of Arc, Hitler, etc., are out of place in this book.

It would be difficult for the practitioner to arrive at any type of useful therapy from the author's descriptions; however, these are most interesting. A quotation from the chapter "Therapeutic Study Program" states: "Mathematics is an excellent memory developer, and when the neurotic sees his memory improving, he is tremendously encouraged and throws himself enthusiastically into new efforts to gain the mastery of his nerves." A daily reading program that the author outlined for one of his patients reads: "Tuesday, 9:30 a. m.—The second chapter in the Gospel of St. John; 2:00 p. m.—Nature Study, first three chapters of book on Ants; 7:30 p. m.—memory exercises, Problems in Mental Arithmetic (under direction of patient's husband)." The author also catalogues little-known methods of treatment that can be found only in this book; for example, "cold mitten friction technique" and the use of electric "auto-condensation," are explained. A "deep massage of the abdomen," using "a small cannon-ball over the abdomen with the patient lying down," is described. Certainly Dr. Sadler brings us many worth-while bits of personal philosophy and a broad and humanistic approach to disturbed interpersonal relationships. On the other hand, these things have not combined to produce a generally useful medical text. Dr. Sadler is to be commended for his courage in attempting to put together the best contributions of an extensive and difficult field into a usable collection for medical men. He has failed to produce this, but he has produced a volume of general historical interest to all specialized workers in the field of psychiatry. Nowhere else can such a tremendous collection of unsifted material be found in one place.

Manual práctico de medicina interna (compendio de patología y clínica médicas). Por Alexander von Domarus. Redactado de nuevo y puesto al día por Hans Frh. von Kress, docente y médico-jefe del Departamento de medicina interna del Hospital Lazarus, de Berlin, Pedro Farreras Valenti, profesor a. de patologia y clínica médicas en la Facultad de medicina de Barcelona, y Egidio S. Mazzei, profesor titular de clínica médica en la Facultad de medicina de La Plata. [Título de la edición original alemana: Grundriss der inneren Medizin.] Fourth edition. Cloth. Pp. 968, with 84 illustrations. Manuel Marín y Cía., editores, Provenza 273, Barcelona, 1953.

The object in writing this volume was to introduce and serve as a guide to medical students and young physicians in the vast field of internal medicine. In it, therefore, the author has expressed his ideas in clear, simple elementary terms, using only the indispensable theoretical terms necessary to clear understanding. In this revised and enlarged edition, as in the previous one, numerous errors have been corrected and discussions carried on in more detail. The goal of the writer was to simplify it as much as possible to make it easy for students as well as the busy practitioner to assimilate. The chapter on infectious diseases has a much more modern approach than heretofore and includes treatment with new drugs and antibiotics. New chapters have been added. The printing is in a larger and bolder type, making reading easier.

An Atlas of Surgical Exposures of the Extremities. By Sam W. Banks, M.D., Associate Professor of Orthopedic Surgery, Northwestern University Medical School, Chicago, and Harold Laufman, M.D., Ph.D., Associate Professor of Surgery, Northwestern University Medical School. Cloth. $15. Pp. 391, with 552 illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaftesbury Ave., London, W.C.2, 1953.

This book is essentially a reference book in which the exposures of the long bones and of the pelvis and shoulder girdle, etc., are collected. The illustrations are clear, and practically all emphasize the points that the authors wish to make. Type and format of the book are good. The style of writing is attractive and clear. The names of the surgeons who first described the various exposures have not been mentioned. It seems a pity that the great names of the past have been passed over. It also would be an advantage to include a brief discussion of the merits and demerits of each exposure. At present, the book is merely a collection of exposures that have been described and not critically analyzed. It will, however, make for itself a place in surgical literature, and it deserves to be on the book shelves of all orthopedic surgeons.

These book reviews have been prepared by competent authorities but do not represent the opinions of any official bodies unless specificially so stated.

Fathers Are Parents, Too: A Constructive Guide to Successful Fatherhood. By O. Spurgeon English, M.D., and Constance J. Foster. Cloth. $3.75. Pp. 304: G. P. Putnam's Sons, 210 Madison Ave., New York 16, 1951.

The relation of parents to their children is a very delicate one, but under the pressures of modern living the tendency for the father to be too busy to share with the mother the family responsibilities of child rearing has raised a question of whether or not he is necessary. The authors not only emphasize that he is very necessary but in great detail instruct him how to increase his value to his children, when to be forthright and positive in this relationship, and when to hold back and watch development.

This book appears to be intended for the intelligent lay reader. Because it is based on analytical psychiatry and is filled with the technical terminology of this discipline, it demands the most careful kind of reading. It is not recommended for casual reading, because it is certain to be misunderstood. The book will, therefore, appeal to a very limited number of readers informed in the field of psychology and psychiatry. Much of what is said about the reasons for certain behavior on the part of fathers and mothers and children, and particularly the behavior in regard to the relations among these persons, is so presented that a parent who has not followed the prescribed narrow path will be filled with guilt feelings and possibly will require the services of the psychiatrist who, in this book, is attempting to help him. This book should be of interest to physicians and counselors who are well enough informed on analytical psychiatry and the principles on which the book is based to understand the implications that it states. It would be confusing and possibly dangerous for the uninitiated reader.

Conduction Anesthesia. By George P. Pitkin, M.D., F.A.C.S., F.I.C.A. Edited by James L. Southworth, M.D., F.A.C.S., Robert A. Hingson, M.D., F.A.C.A., F.I.C.A., and Winifred M. Pitkin, B.M., B.Ch., M.D. Second edition. Cloth. $22.50. Pp. 1005, with 585 illustrations. J. B. Lippincott Company, 227-231 S. Sixth St., Philadelphia 5; Aldine House, 10-13 Bedford St., London, W.C.2; 2083 Guy St., Montreal, 1953.

In the first edition of this work, which appeared in 1946, some of the chapters were written by seven additional collaborators. This second edition represents the pooling of knowledge and experience of a surgeon, an anesthesiologist, and a clinician and anatomist. Extensive revisions of some chapters have been made. Other chapters have been rearranged or expanded to include changing concepts. New chapters have been added dealing with the vertebral canal and its contents, including "landmark" anatomy; topical anesthesia for the ophthalmologist and the oral and general surgeon; and a valuable discussion of complications of conduction anesthesia, including cause, prevention, and treatment. The material on pharmacology has been brought up-to-date. More extensive discussion of extradural anesthesia by single and continuous methods of administration appears in this revised edition. The chapters originally written by Dr. George P. Pitkin remain almost unaltered and still form the foundation of this volume.

At the end of the 20 chapters is an extensive bibliography, followed by a bibliographic index, and an adequate general index. Unfortunately the bibliographic index contains numerous errors due mainly to repetition of several authors' names caused by failure to include some initials, as well as mistakes made in initials or in the spelling of names.

This attractively bound book is on paper of excellent quality, the type is clear, and the illustrations are well selected. The general format is excellent. While it is too detailed for medical students, except as a reference book, it is highly recommended to surgeons, anesthesiologists, and practicing physicians.

Chemistry of Carbon Compounds: A Modern Comprehensive Treatise. Volume II, Part A: Alicyclic Compounds. Edited by E. H. Rodd, A.C. G.I., D.I.C., D.Sc. Contributors: R. G. R. Bacon, Ph.D., A.R.C.S., et al. Cloth. $12.50; to subscr. $11.25. Pp. 487. Elsevier Press, Inc., 402 Lovett Blvd., Houston 6; 155 E. 82nd St., New York 28; 118 Spuistraat, Amsterdam C, Netherlands, 1953.

The third book in a series succeeding Richter's "Organic Chemistry" is virtually a monograph by R. A. Raphael, of Glasgow, on the chemistry of alicyclic hydrocarbons and their derivatives. The first chapter covers the theory of the structure and stability of saturated ring compounds containing only carbon in the ring. In the next eight chapters Raphael takes up the chemistry of the different sorts of alicyclic compounds. The compounds range from those containing single rings of all sizes to the more complex spiro, fused ring, and bridged ring compounds. The material forms a foundation for the chemistry of the terpenes and steroids, which will be covered in part B of volume 2.

The only material in part A not written by Raphael is a short chapter on carotenoids by Hunter and a somewhat longer chapter, by Bacon, on open-chain and cyclic polymers, such as natural and synthetic rubber and rubber-like compounds. As in the other parts of this series, each topic is treated briefly, and the reader is referred to original and review articles and to monographs for further information. The material is arranged logically and is well indexed. The paper and printing are excellent, and the binding is sturdy.

Classics in Clinical Dermatology with Biographical Sketches. By Walter B. Shelley, M. D., Ph.D., Chief, Clinic of Dermatology, University of Pennsylvania Hospital, Philadelphia, and John T. Crissey, M.D., *Instructor*, Dermatology and Syphilology, University of Pennsylvania. Introduction by John H. Stokes, M.D., Professor of Dermatology and Syphilology, Graduate School of Medicine, University of Pennsylvania. Cloth. $10.50. Pp. 467, with 108 illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

In this most entertaining and literate work Shelley and Crissey have collected the significant and classic dermatological descriptions from the early physicians of the 18th and 19th centuries to those of modern times. This book is the first of its kind in the field of dermatology. The 143 descriptions, all in English, include both common and rare diseases, entities as old as psoriasis and others as modern as tropical anidrosis. Each of the classics is preceded by a brief interesting biographical sketch of its author, 95 men "who differed in every conceivable way, race, age, time, background, education, temperament, and ability, but who had one faculty in common, the ability to perceive the new as new." The book is, in a sense, a historical survey presented not as a succession of names and dates but with a young and lively perspective free from adulation but properly respectful of the masters. The authors have carefully edited the papers so as to limit the accounts to clinical descriptions, omitting all laboratory particulars. Many of the original illustrations and photographs of most all of the original writers are reproduced. The publishers have cooperated to produce a magnificently turned-out book. It should be in the library of every student of medicine.

Histology. By Arthur Worth Ham, M.B., F.R.S.C., Professor of Anatomy, in Charge of Histology, in Faculties of Medicine and Dentistry, University of Toronto, Toronto. Second edition. Cloth. $10. Pp. 866, with 518 illustrations. J. B. Lippincott Company, 227-231 S. Sixth St., Philadelphia 5; Aldine House, 10-13 Bedford St., London, W.C.2; 2083 Guy St., Montreal, 1953.

This edition of Ham's "Histology" is published three years after the original publication and contains new material and revisions of chapters concerned with the cell structure, the connective tissues, bone, the impulse conducting system of the heart, the lymphatics, the liver, the lungs, and the adrenal cortex. Part 1, in four chapters, defines histology and how it is studied. Part 2, in six chapters, discusses the cells, the intercellular substances, the tissue fluids, the blood cells, platelets, and fibrin. Part 3, in 10 chapters, describes the four primary tissues, epithelial, connective, muscular, and nervous, and their subdivisions. And part 4, in 10 chapters, details the histology of the systems, such as circulatory, integumentary, digestive, respiratory, urinary, endocrine, female reproductive, male reproductive, sensory receptive, and articulative. The text is complete in descriptive details, is well and generously illustrated, the illustrations are of uniformly good quality, and the references are sufficient. This book is highly recommended for students and teachers of histology and to pathologists as an excellent reference.

QUERIES AND MINOR NOTES

TREATMENT OF HODGKIN'S DISEASE

To the Editor:—*A 31-year-old naval officer's wife has Hodgkin's disease. I have been treating her with corticotropin (ACTH) and testosterone, and lately have thought of using cortisone in conjunction with the above treatment. Would this be advisable? The disease is quite active as shown by lymphadenopathy in the cervical and skull areas.*

M.D., Pennsylvania.

Answer.—The treatment of Hodgkin's disease remains essentially a treatment by roentgen therapy. This should be given in small doses, i. e., 300 to 600 r over the affected lymph nodes. Some recommend that it be given over groups of lymph nodes adjacent to the affected area even though these are not enlarged. Great attention should be paid to maintaining a normal red blood cell count and avoiding leukopenia. Blood transfusions should be employed without hesitation when indicated, and absorbable forms of iron should be frequently administered. Testosterone does not affect the disease process and can only contribute to the patient's sense of well-being. Cortisone does not affect the disease process but might be employed in the presence of anemia or hemolytic anemia if either develops. Cortisone will also contribute to stimulation of the normal elements of the bone marrow should this be necessary. In addition to roentgen irradiation, the most valuable agent in Hodgkin's disease is nitrogen mustard. This drug is employed either alternating with series of x-ray treatments or when x-ray irradiation seems to have lost its effect. Under the latter situations, nitrogen mustard will bring about a remission of acute phases of the disease. Sole reliance cannot be made on nitrogen mustard, nor does x-ray therapy represent the sole treatment without the use of nitrogen mustard as an adjuvant when necessary. The maintenance of adequate caloric intake and general nutritional status is of utmost importance. Newer drugs such as 6-mercaptopurine have not been found as efficacious in Hodgkin's disease as in certain leukemias. The problem of when to use x-rays and when to use nitrogen mustard and how long to continue use of these agents rests on clinical judgment and no set rule can be given. The patient's condition is the true guide to treatment. Over-treatment must be avoided, as the efficacy of both x-rays and nitrogen mustard decreases progressively as time goes on, and, therefore, these agents must be husbanded as much as possible for as long as possible in order to have some agents available that will be effective in bringing about a remission when acute phases of the disease develop.

MALIGNANT HYPERTENSION

To the Editor:—*A man, 30 years of age, has malignant essential hypertension. His blood pressure averages 250/160 mm. Hg, he has 4+ albumin in the urine, he is losing weight rapidly, and his vision is failing. An electrocardiogram shows considerable heart damage, although the patient has not clinically had a heart attack, nor has he had heart failure. A sympathectomy is not indicated. Trial with all the usual hypotensive drugs has produced no improvement. Tests for a renal or adrenal tumor gave negative results. Recently, a patient of mine was told that some kind of injections are being used in the treatment of hypertension, with dramatic results. Please advise what drug this is.*

Donald F. De Morse, M.D., Holbrook, Ariz.

Answer.—The medicament oftenest used parenterally to reduce blood pressure of patients with hypertension is hexamethonium bromide, which is available under the trade name Bistrium. Another drug recommended for intravenous use is Veriloid (hypotensive ester alkaloids of veratrum viride). Other preparations for similar use are available. General experience indicates, however, that patients with severe malignant hypertension respond poorly. Most authorities believe that the hazard of use of strong hypotensive drugs in such patients is too great. Reduction of blood pressure may be associated with increased renal failure and uremia, cardiac or cerebral ischemia, and perhaps thrombosis. Conventional medical dietary treatment with use of commonly employed drugs for sedation and symptomatic relief would be best for the patient described. Even adrenalectomy has not yielded encouraging results in this type of severe malignant hypertension.

THROMBOCYTOPENIC PURPURA

To the Editor:—*In a 39-year-old woman petechiae of the extremities developed during the fifth month of pregnancy, followed by mild, transitory epistaxis, coffee-colored stools, and ecchymosis of the ankle. The blood cell counts are within the normal range, but the initial platelet count was 20,000 per cubic millimeter. The only drugs the patient has been receiving are diethylstilbestrol in increasing amounts, at present about 50 mg. daily, and Boyle hematinic tablets (ferrous gluconate with vitamins B complex and C), six daily. The patient's past history includes a normal pregnancy, a miscarriage at four months followed by severe bleeding for one month, another normal pregnancy, and an early abortion. About 18 months ago she had hematuria and pyuria, which were treated with triple sulfonamides; an episode of petechiae that followed was thought to be due to drug sensitivity, and no platelet count was done at that time. The condition cleared spontaneously. The patient had one other episode of petechiae, without alarming sequelae. She is a redhead. For the present episode, treatment has consisted of administration of cortisone, 100 mg. daily, and testosterone, 100 mg. daily intramuscularly, for one week. At the end of four days of treatment, the platelet count was 26,000 and at the end of one week, 21,350. The diethylstilbestrol therapy was stopped abruptly. What is the best method for further managemet of this case? Is there any justification for using diethylstilbestrol? Is there any danger in withdrawing diethylstilbestrol abruptly?*

Michael Irvin, M.D., Tacoma, Wash.

Answer.—This patient obviously has thrombocytopenic purpura, which is a syndrome of many different causes. It may be idiopathic (Werlhof's disease), or it may be caused by a variety of infectious granulomatous, neoplastic, allergic, or toxic conditions. This patient may be sensitive to diethylstilbestrol, although this is not likely. If diethylstilbestrol were responsible for the thrombocytopenia, the platelet count would return to normal after use of the drug was stopped. A bone marrow biopsy should be done to determine whether any changes have taken place in the megakaryocytes (an increase in number, decreased granularity and absent platelet production, and an increase in the number of immature forms, promegakaryocytes and megakaryoblasts). There seems to be little justification for the use of diethylstilbestrol, and there is no danger in withdrawing it. Redheads have no particular bleeding difficulties in pregnancy; this is simply a superstition. If the patient has idiopathic thrombocytopenic purpura, cortisone administration may have to be continued; although it may not raise the platelet count, it will decrease the capillary permeability and the tendency to bleed. If the bleeding tendency persists, splenectomy is indicated and can be performed by a skilled surgeon without causing abortion in the fifth month of pregnancy. It would be advantageous to determine whether the patient has evidence of the presence of antiplatelet autoagglutinins (see Harrington, W. J., and others: *Ann. Int. Med.* 38:433, 1953).

The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically so stated in the reply. *Anonymous communications and queries on postal cards cannot be answered.* Every letter must contain the writer's name and address, but these will be omitted on request.

TREATMENT FOR TRICHOMONAS VAGINITIS

To the Editor:—*Please comment on an office procedure by which apparently I was able to cure a case of Trichomonas vaginitis. An applicator well soaked in hydrogen peroxide was inserted into the cervix and left in place for at least one minute. This was repeated four or five times at each treatment or until the cervical canal appeared "clean." Silver nitrate, 8%, was next applied once or twice at each treatment. Treatments were given at 7 to 10 day intervals. After about six treatments the patient was free of symptoms. The smear was negative, and the patient has remained symptom-free for two years.* *M.D., New York.*

Answer.—The method proposed is not approved for the following reasons: 1. Silver nitrate does not eradicate granulations or inflamed tissue and may, in the strength suggested, cause cervical stricture. 2. The use of a foaming agent, such as hydrogen peroxide, in the cervical canal is apt to cause bacteria from the cervix to be pushed up into the uterus and thus may lead to pelvic inflammatory disease. 3. Often repeated cervical treatments lead to chronicity of infection and lowered resistance of the tissue. The source of Trichomonas vaginitis still is not known, but most gynecologists agree that the proper treatment consists of the following measures: (1) the cleaning up of local irritations, such as erosions: this is usually done by direct cautery; "cherry red" hot cautery is used, with stellate linear incisions starting in the endocervix and carried out to the mucocutaneous junction; care must be used to leave tissue between the cautery strokes untouched so that the epithelium may regenerate; this treatment should not be repeated within six months to a year and, therefore, the first treatment should be thorough enough to promote drainage and destroy most of the granulating tissue of the erosion; (2) the use of an agent that will on contact kill the trichomonads and that will not damage tissue; (3) the use of an acid agent that will increase the pH of the vagina toward normal to promote growth of Döderlein's bacilli (Bacillus vaginalis), the natural bacteria of the vagina, and will discourage the growth of other bacteria; (4) use of an agent, such as one of the sugars, that will also aid in promoting growth of Döderlein's bacilli. Several suppositories are available that fulfill the needs of the last two measures.

The treatment will be successful only if simple and if persisted in. The patient should begin by taking a vaginal suppository twice daily for one week, with no douches. During the second and third weeks the suppository is used only at night. Douching is not recommended at all unless the patient on occasion notices that accumulated material from the suppositories bothers her; in such an event she may douche, using low pressure and weak lactic acid or vinegar and allowing the fluid free egress from the vagina. If a douche is taken a suppository should be inserted soon after so that the vagina is constantly covered by the suppository material. After the third week the frequency of use of the suppositories is decreased to every other night for two weeks, then every third night, then two times weekly, and finally once weekly. During the treatment it is important if any bleeding or a menstrual period occurs that the patient again take suppositories twice a day until the bleeding stops, after which treatment is resumed at the point reached when bleeding occurred. With this method, few failures occur. The patient should treat herself for three to six months. Intercourse is allowed, unless the husband harbors the organism in the prostate.

The situation should be explained to the patient in advance of treatment. The persistence necessary and the fact that treatment should not be stopped as soon as symptoms disappear should be stressed. It is surprising how few visits are necessary to the physician's office if this routine is carried out. A few variations in treatment occasionally are necessary. In a fair percentage of patients with this infestation the cervix and vagina are so tender that examination is almost impossible. This makes insertion of a suppository painful at first. In these cases, an extremely weak vinegar or lactic acid douche is used two or three times over 24 hours before the regular treatment is started. Cauterization is done as soon as the acute inflammation subsides, usually on the second visit or at the end of one week, if it seems necessary.

TYPHUS

To the Editor:—*What is the effect of antibiotic treatment on the rising antibody titer in typhus? Will the titer continue to rise and enable the physician to verify the diagnosis even after subsidence of the acute fever, which usually occurs promptly after institution of chloramphenicol therapy, or will the titer remain stationary at the level reached when antibiotic therapy was instituted?*

Heinrich Lamm, M.D., La Feria, Texas.

Answer.—Treatment of patients with typhus with the broad spectrum antibiotics generally has little effect on the development of antibodies. Patients given chloramphenicol, chlortetracycline (aureomycin), or oxytetracycline (Terramycin) late in the first week or early in the second week after the onset may be expected to show a rising titer of Weil-Felix agglutinin, increasing from a low or negligible level on the eighth day to a maximal level during the third week. Patients given specific therapy during the first few days of fever, actually before the clinical diagnosis can be made, often show a delay in the appearance of the Weil-Felix agglutinins. Such persons may have low or negligible titers at the end of the second week, but antibodies appear in a good titer by the end of the third week. Before specific therapy became available for the typhus and spotted fever groups of the rickettsial diseases, patients remained febrile for two weeks and convalesced for a month. Late serum samples were easily obtained under these conditions. With the present therapeutic measures, patients have shortened periods of disease and convalescence and may be out of the hospital before maximal antibody levels are reached. In such instances, it may be desirable to have the patient return 4 to 5 weeks after the onset of the disease for a check-up and to supply a late sample of serum for the serologic diagnosis.

INHERITANCE OF ICHTHYOSIS SIMPLEX

To the Editor:—*A 28-year-old man has congenital, generalized ichthyosis simplex of moderate severity. There is no known familial history or stigmata of the trait. If he were to marry a woman with normal skin, what would be the chances that his offspring would inherit ichthyosis?*

William Snyder, M.D., Paterson, N. J.

Answer.—Two types of inheritance for ichthyosis simplex have been described, simple dominant and sex-linked recessive (Gates, R. R.: Human Genetics, New York, The Macmillan Company, 1946, vol. 1, pp. 313-315). The former is commoner and is frequently seen in persons of northern European stock, whereas the latter is said to occur mainly in Latin and Japanese persons. If the person under consideration has the simple, dominant type of ichthyosis simplex, at least 50% of his offspring would be expected to show the condition. If the inheritance is sex-linked recessive and the woman is not a carrier, none of the first generation offspring would show the trait, but all daughters would become carriers, so that 50% of their sons would be expected to show the condition; however, other complicating factors, such as inhibiting genes, may alter these expected percentages.

BACTERIA IN OPERATING ROOMS

To the Editor:—*What is the approximate normal bacteria count in an ideally regulated operating room?*

S. L. Governale, M.D., Chicago.

Answer.—Bacteria settle out of the air in a clean operating room at the rate of 30,000 viable organisms per aseptic field per hour. With careless housekeeping or a dirty air conditioning system the count will rise to hundreds of millions per hour. The following two references are of interest:

Meleney, F. L.: Infection in Clean Operative Wounds: 9 Year Study, Surg., Gynec. & Obst. **60**: 264 (Feb. [no. 2A]) 1935.

Duguid, J. P., and Wallace, A. T.: Air Infection with Dust Liberated from Clothing, Lancet **2**: 845 (Nov. 27) 1948.

NEOPLASMS OF THE SKIN

To THE EDITOR:—*What are the recent developments in the technique of inguinal lymphatic dissection in neoplasms of the skin below the umbilicus? I would like to know the advantages and disadvantages associated with the different procedures currently in use.*

Enoir Nasri, M.D., Damascus, Syria.

ANSWER.—The currently accepted treatment for neoplasms of the skin, exclusive of malignant melanoma, is wide local excision. Subsequent node metastases are managed by radical node dissection, as a secondary procedure. In cases of malignant melanoma, the accepted method of treatment at present appears to be wide local excision of the primary lesion, including all subcutaneous tissue and underlying fascia in continuity, with complete dissection of the lymph nodes of the area most likely to be involved by lymphatic metastasis. The abdominal wall lesion below the umbilicus tends to metastasize to the inguinal and iliac nodes of the homolateral side. Superficial groin dissection may occasionally be done, but most surgeons today favor complete lymphatic dissection in the groin, including superficial femoral, inguinal, iliac and obturator nodes, whenever groin dissection is indicated. This requires splitting the inguinal ligament for retroperitoneal dissection. A review of abdominal wall neoplasms by Pack and Ehrlich appeared in *International Abstracts of Surgery* in 1944. The techniques are described in the references given below.

Pack, G. T., and Rekers, P.: Management of Malignant Tumors in Groin: Report of 122 Groin Dissections, Am. J. Surg. **56**: 545-565 (June) 1942.

Baronofsky, I. D.: Technique of Inguinal Node Dissection, Surgery **24**: 555-567 (Sept.) 1948.

Daseler, E. H.; Anson, B. J., and Reimann, A. F.: Radical Excision of Inguinal and Iliac Lymph Glands: Study Based Upon 450 Anatomical Dissections and Upon Supportive Clinical Observations, Surg., Gynec. & Obst. **87**: 679-694 (Dec.) 1948.

AMPLIFYING STETHOSCOPES

To THE EDITOR:—*A physician who has had a hearing loss of about 60% is disturbed at not being able to use a stethoscope. Can you advise where he can obtain an amplifying stethoscope or anything that would be of help?*

M.D., Indiana.

ANSWER.—The development of hearing loss in a physician as it affects satisfactory use of the stethoscope is a serious problem to which no completely satisfactory solution is readily available. Electronic amplifying stethoscopes are available, and some have been accepted by the Council on Physical Medicine and Rehabilitation of the American Medical Association. When a physician attempts to use one of these instruments, he must actually learn to "hear" again. He must become accustomed to the heart sounds as electronically amplified and must again learn to interpret the various sounds he hears, much as he learned the meaning of these various sounds as heard through the conventional stethoscope in his medical school days.

ULTRAVIOLET LIGHT

To THE EDITOR:—*Does the prolonged use of ultraviolet light on the face for acne have any deleterious effects? A 16-year-old girl has been using ultraviolet therapy for acne, and the condition is clearing up, but abscessed teeth are now developing. Is there any connection, or is this a coincidence?*

M.D., Massachusetts.

ANSWER.—Assuming that ultraviolet light was used in the proper exposure, it would, in the earlier stages of its application, produce erythema of the skin, and, subsequently, might cause tanning. There is controversy as to whether excessive ultraviolet radiation itself produces cancer. It is generally felt, however, that ultraviolet radiation may produce precancerous lesions and that trauma (chemical, mechanical, or actinic) to these precancerous lesions may result in malignancy. It is extremely doubtful that there is any connection between the application of ultraviolet light to the patient treated in this case and the development of abscessed teeth.

USE OF THYROID IN ADAMS-STOKES SYNDROME

To THE EDITOR:—*Please explain the therapeutic action of thyroid in the Adams-Stokes syndrome.*

John A. Mangieri, M.D., Gangall, N. Y.

ANSWER.—The therapeutic use of thyroid preparation in the Adams-Stokes syndrome is based on the metabolic action of the hormone on the myocardium. With its use, atrioventricular conduction might be expected to improve, with prevention or reduction in incidence of attacks, and the resulting increased ventricular excitability might be expected to reduce the duration of ventricular asystole and elevate inherent ventricular rhythm. While it has been shown repeatedly that thyroid elevates the metabolic rate and inherent rhythm of both auricle and ventricle in vitro, its effects on the conducting mechanism are less clear, and results of its use in the living patient are more complex. The well-recognized dangers of elevating the metabolic rate in a patient with cardiac damage of the degree usually associated with the Adams-Stokes syndrome would seem to greatly outweigh the possible theoretical benefits to be gained with thyroid therapy.

OVALOCYTOSIS

To THE EDITOR:—*I would like to comment on the query on "Ovalocytosis" in* THE JOURNAL, *July 4, 1953, page 985. It is true that the great majority of carriers of the ovalocytic (elliptocytic) trait are asymptomatic. In many a coexistent anemia has been ascribed to hemorrhage and nutrition. In reviewing these cases it is apparent that a large number manifest findings of overt hemolysis with reticulocytosis, bilirubinemia, and shortened cell survival. In almost every case a dominant hereditary trait was demonstrated. In one case in the literature (Wyandt and others:* Arch. Int. Med. **68**:*1043 [Dec.] 1941) and in one studied in our pediatric ward, both parents carried the trait and the children had marked hemolysis. It may be that a person who is homozygous manifests a marked anemia and the heterozygous patient only the trait. A number of cases have been described in which splenectomy has resulted in marked improvement or virtual cure, as was true of our patient. Some of these have shown a concomitant increased osmotic fragility with or without spherocytes (J. V. Dacie and others:* Quart. J. Med. **22**:*79, 1953).*

It seems advisable, then, to test this child for evidence of a hemolytic mechanism. The parents should also be studied. Of course, a spontaneous rise during iron therapy would preclude such a diagnosis and suggest that she suffers only from the trait and that the anemia is the result of hemorrhage and/or iron deficiency. In any case, bilirubin, reticulocyte, and probably bone marrow studies are indicated.

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NERVOUS INDIGESTION

To THE EDITOR:—*The reply of the consultant to the query regarding nervous indigestion in* THE JOURNAL, *July 11, 1953, page 1083, would have been more helpful if the inquirer had been advised to probe more deeply into the life situation of his patient and to elicit the cause of the symptoms. Chapters 11, 12, and 13 of "Psychosomatic Medicine" by Weiss and English (Philadelphia, W. B. Saunders Company, 1950) present this problem well. Any benefit obtained from the Pavatrine (β-diethylaminoethyl fluorene-9-carboxylate) hydrochloride and phenobarbital would probably be due to the sedative effect of the phenobarbital alone. Treatment of the anal impotency with long-continued use of phenolphthalien-containing liquid petrolatum preparations will cause a distressing skin rash in many patients.*

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THERAPEUTIC ASPECTS OF GERIATRIC MEDICINE

William B. Kountz, M.D., St. Louis

Perhaps a discussion of geriatric medicine should begin with consideration of the purpose of this field of medical science. Present hospital reports tell the story of persons past midlife. The ever-increasing numbers of persons who are in ill health and are infirm emphasize the need for evaluation of the health in the latter phase of life. In simple terms geriatric medicine and age should have as their prime purpose the same relationship as youth and pediatric medicine, which none can deny is a very important relationship for children. It should be emphasized that medicine has been responsible for the maintenance of life and health well beyond the 45 year average life expectancy at the turn of the century to 65 or 70 years today. Thus, the span of life of a great number of persons has been extended into a period when degenerative disease plays an important role. Medicine has, therefore, a responsibility in keeping the elderly person healthy, particularly since it is responsible for extending his life.[1]

In pediatrics, medicine has learned that there are certain biological weaknesses of childhood such as lack of immunity to common infections like measles, mumps, scarlet fever, and diphtheria. It has learned that if physicians artificially extend immunization they increase health. It has also learned that there are certain feeding problems in children and that low intake of essential food substances brings about disease. For instance, a low intake of vitamin D will cause rickets and lack of adequate protein will bring about inanition.

Studies in the field of geriatric medicine have established that, just as with the child, the older person has certain biological weaknesses that lead to disease.[2] He does not necessarily lack the antibodies and/or readily succumb to infection that is common in childhood, but the strain of life has brought about other functional disturbances that lead to tissue exhaustion and disease. The most probable cause of disease has been found to be exhaustion of body tissue function.[3] This exhaustion is a natural phenomenon, since it can be readily demonstrated that weakness of any body tissue may develop with prolonged overuse without sufficient rest and adequate nutrition of the cells.[4] Geriatric medicine, therefore, must seek its place in the maintenance of health of the older population and prevent or modify the degenerative or exhaustive processes that result in such conditions as arteriosclerosis, heart disease, and mental changes. Just as many of the infections of childhood can be prevented, health in older persons must be preserved and degenerative body changes prevented or modified.

The attitude in medicine has formerly been and still is at present to wait until specific disease entities develop before anything is done about them. A patient may have coronary thrombosis after definite assurance on the part of a physician that his heart is normal. Physicians are more prone to look at the anatomic states of the body than to realize that disturbed body function may lead to and is always a prodromal condition for anatomic diseases associated with degenerative body changes. In order to avoid anatomic disease in these persons, it is necessary that early manifestations of disturbed body function be recognized. Thus, a person may have an attack of coronary heart disease that may be repeated from time to time until he becomes a miserable, marginal worker whose usefulness to himself and mankind has been reduced manyfold. In fact, many such persons become wards of their families, friends, or the communities in which they live. It is needless to say that medicine does not know all the answers in the control of degenerative disease at this time, but the period of 15 years that has elapsed since the research unit in gerontology was established in the St. Louis Infirmary and Infirmary Hospital has seen considerable advancement in the understanding of these conditions.

HEALTH CONTROL

The field of health control for older persons is not well recognized by clinical medicine. Geriatric medicine should emphasize the control of health, and to do this it must not wait until the elderly persons arrive at an

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Read at the Sixth Clinical Session of the American Medical Association, Denver, Dec. 3, 1952.

From the Division of Gerontology, Washington University School of Medicine, and the St. Louis City Infirmary Hospital.

[1] Piersol, G. M., and Bortz, E. L.: Aging Process: Medical-Social Problem, Ann. Int. Med. **12**: 964-977, 1939.

[2] Kountz, W. B.: Degeneration and Regeneration, in Problems of Ageing, edited by A. I. Lansing, ed. 3, Baltimore, The Williams & Wilkins Company, 1952, pp. 882-908.

[3] Warthin, A. S.: Old Age, The Major Involution; The Physiology and Pathology of the Aging Process, New York, Paul B. Hoeber, Inc., 1929.

[4] Graham, E. A.: Estimating Risk of Operations on Biliary Tract by Testing Excretory Function of Liver, Radiology **21**: 191-194, 1933.

advanced state of ill health.[5] In order for persons to go to the physician at an early period, that is, at 40 to 50 years of age, they, as well as the physician, must be educated. The physician must be educated to recognize functional as well as anatomical changes of the body, and the patient to realize that disease or body change is lurking in the background even though he feels in good health. The very important problem of prevention of degenerative disease, anticipation of health, or health maintenance of the relatively well older person is a field that should be uppermost in present thoughts.

In a study of health one of the important factors is to understand the basic functions of the body as they operate. Such an understanding calls for proper medical evaluation. There are two general causes of chronic illness in the person past midlife. One develops as a result of factors from outside the body organism and causes disturbance and decline that is, and must be, considered of exogenous origin. The other develops as a primary body change and is considered to be of endogenous origin. Examples of the first condition would be scars from old infections, tuberculosis, and mitral valve disease. Occupational diseases would fall into this category. Arteriosclerosis, diabetes, and some forms of arthritis seem to fall into the latter, or endogenous, caterory.

The endogenous processes are believed to arise from chemopathological disturbances in the body and are the more important and far commoner of the two. It is believed that the change results in a decline in the function of tissues, particularly those that have to do with nutrition. Habits and heredity and food perhaps influence the exhaustive factor more than any other state. Therefore, in assessing or studying the control of disease processes in persons past midlife, different factors and combinations must be considered.

The change from a rural to an urban society in our present civilization contributes to a certain type of exhaustive phenomenon of the body related to diseases of the older person today. The tension and stress of living play a role in tissue exhaustion, particularly that of the glands of internal secretion.[6] Factors that thus cause endogenous degenerative changes may be associated with inherited tendencies and habits as well as environment. The old saying "pick your ancestors to live a long and healthy life" may mean that certain persons inherit a body that is more rugged and durable than the average, but it also may mean that those ancestors were physically and mentally more alert to damaging conditions and hence avoided factors that favor the occurrence of body degeneration.

Habits that tend to act adversely in the maintenance of good health are those that tend to produce anoxia of the body tissues.[7] Overindulgence in food and drink has been cited as a factor causing anoxia, as well as use of tobacco and of sedatives. Physical overactivity and mental exhaustion (stress and strain) in untrained persons may produce relative tissue anoxia and disease.

Different factors must be evaluated in geriatric medicine. Since the purpose of most medicine is primarily therapeutic, two problems arise; one concerns immediate therapy, as in most other fields of medicine, while the other is not so immediate or similar since it has to do with the application of therapeutic procedures as a preventive measure. It is necessary, therefore, that physicians understand and emphasize objectives that have to do with protection of health. It must be understood that the physiological changes that occur in the older person may lead to a disease process that must be recognized, preferably early, and treated before any immediately active medical situation can develop. It is true that most patients come to the physician with definite diseases and real complaints, such as shortness of breath or pain in the chest, and with typically degenerative body changes that have progressed to the point of disease. In these persons immediate treatment of diseases processes is indicated, but the future of the patient should be anticipated and outlined. In other words, immediate treatment only is not enough and prevention of further occurrence, if possible, should be considered.

In addition to treatment of immediate illness and adjustment of the patient to a health program for controlling an underlying disease process, a third purpose for medicine in this age group is the rehabilitation of the body during and after acute emergency. This implies, of course, that some derangement of body function exists to which a patient must be adjusted. This includes residuals after such pathological processes as intracranial hemorrhage or cardiac failure. Rehabilitation is nothing more than teaching people to live with and aiding them to develop body reserve, which is not too successful in older persons without a regimen for removing, as far as possible, the immediate cause of the ill health.

Health anticipation is of the utmost importance, therefore, and of major concern to students of this field of medicine. Total medical evaluation of the older patient is the most important factor in establishing the relation of the patient to health and implies foresight on the part of the physician in the avoidance of more or less predictable difficulties. It must be recognized that one cannot anticipate a person's health without proper diagnosis or understanding of his body function, even though the evaluation may be studious and extended.

It is necessary, therefore, that physicians learn to understand basic physiological mechanisms of older persons, even though a rather comprehensive series of diagnostic procedures may be necessary to determine the facts. It is not enough that a physical examination be done that reveals difficulty in locomotion and some arteriosclerosis, a history taken that reveals the patient is 70 and then treatment be started. In other words, proper therapy must depend on proper diagnosis. With careful study a person at or beyond middle age (40 years) in perfect health will seldom be found, because all persons have multiple, previously accumulated exhaustive processes as well as scars of prior illness that effect the clinical picture. Invariably, then, problems of older persons are relatively great, even though the individual may feel in good health. Also these problems are those of body function, may be multiple, and may be due to body tissue exhaustion as well as to reduction of tissue reserve.

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[5] Stieglitz, E. J.: Orientation, in Geriatric Medicine: Diagnosis and Management of Disease in the Aging and in the Aged, edited by E. J. Stieglitz, Philadelphia, W. B. Saunders Company, 1943, pp. 1-29.

[6] Selye, H.: General Adaptation Syndrome and Diseases of Adaptation, J. Clin. Endocrinol. **6:** 117-230, 1946.

[7] Hueper, W. C.: The Relation Between Etiology and Morphology in Degenerative and Sclerosing Vascular Diseases, *Biol. Symposia*, **11:** 1-42, 1945.

The problem of medical evaluation is to recognize tissues with reduced function, particularly those pertaining to nutrition and normal body activity. It is necessary always to take complete medical and social histories as well as to make physical and laboratory studies. It is not enough to evaluate independent tissue function, but the study must be directed to an over-all study of body function as well.[8]

LABORATORY STUDIES

It is important to use the laboratory freely in geriatric medicine. Perhaps no other field of medicine requires such exacting and even "reckless" use of the laboratory. One has difficulties sometimes in hospitals in ordering "too much" laboratory work, oftentimes more than the interns and hospital staff are accustomed to, but it is the only way that early degenerative changes can be found. I want particularly to emphasize the importance of the tests of stress. Since evaluation of an older person may be similar to any type of approach where activity is important, it may be compared to evaluation of an automobile. One would not buy an unknown automobile by just listening to the motor as it idles at the curb, but would also check the tires, the battery, the functioning of the motor under conditions of stress, such as climbing a hill, and the brakes on an incline. The same principle applies in evaluating the health of an older person. Since all tissues do not wear out uniformly in all persons, it is important that individual organs and their activities also be studied when a general work-up indicates there are deficiencies. As an example, one may want to know not only the blood cell count but the rate of activity of the bone marrow and also the evidence of abnormal forms of blood cells in the blood stream. One may also want to know the rate of oxygen consumption, since there is a definite relation between some of the factors in body degeneration and this body activity.[9] The rate of radioactive iodine uptake by the thyroid gland is an index to this gland's function and is related to the rate of oxygen consumption (fig. 1). Circulation studies, checking of the size of the heart and the cardiac output, perhaps by use of the kymogram, and checking of the kidney function by the concentration diuresis test, are indicated. The measure of the venous and arterial pressure may establish certain facts about the cardiovascular system, and by roentgenography one can recognize evidence of arterial degeneration. With functional tests such as the step test and sweat test, important changes in the cardiovascular system may be recognized. The ballistocardiograph has more recently come into prominence as an important mechanism for evaluation of the cardiovascular system.

The endocrine glands play a basic part in the body disturbance in age, and studies of endocrine function are important. As has been indicated, the uptake by the thyroid gland of radioactive iodine is a factor to be considered, as are other tests that include the evaluation of the adrenal cortex by the excretion of the 17-ketosteroids, the estrogen content of the body by smears of the epithelium of the vagina or tongue, and the androgen factor by the acid phosphatase content of the prostatic fluid in a younger group. The calcium balance may indicate the rate of depletion of this substance from the body and reflect deficiency of certain of the glands.

Since nutrition is uncertain in older persons, one cannot overemphasize the importance of adequate medical guidance in this direction. Repeated glucose tolerance tests may give an idea of the carbohydrate metabolism of the older persons, which is important since many older persons tend to use carbohydrate to excess and hence to utilize it instead of other more essential substances such as protein. This test may enable a physician to advise a proper diet. Most older persons have glucose tolerance curves that do vary greatly from a recognized normal. In my experience only about 7% of persons over 40 years of age have a persistently normal curve. Our studies suggest that most older persons who have a repeated glucose tolerance curve that tends to approach normal stay healthier longer than many of those who do not. I think it wise to achieve a glucose tolerance curve as nearly normal as possible by the use of proper diet and, if necessary, by the use of insulin and other hormones if their administration seems indicated after study. The lipoprotein has more recently and rightfully come into its important place in the control of geriatric medicine. Its evaluation and proper control can be done by the electrophoresis technique or the procedures suggested by Cohn[10] and by Gofman.[11]

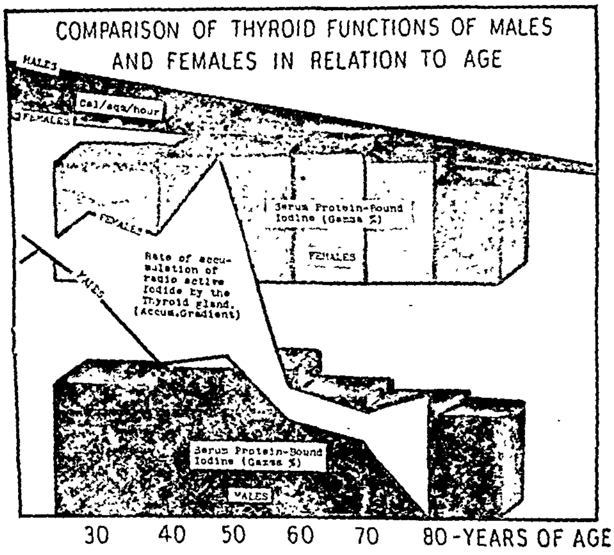

Fig. 1.—Comparison of the results of measurement of the thyroid function by three techniques. It may be noted that detail is more evident by the technique of the radioactive iodine uptake of the thyroid gland. All three tests show, but particularly the radioactive iodine uptake in most women, a tendency to maintain a relatively increased or normal thyroid function until after menopause, whereas in men even before the age of 20 the thyroid function tends to drop.

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[8] DuBois, E. F.: Basal Metabolism in Health and Disease, ed. 3, Philadelphia, Lea and Febiger, 1936. Kountz, W. B.; Chieffi, M., and Kirk, E.: Serum Protein-Bound Iodine and Age, J. Gerontol. 4: 132-135, 1949. Perlmutter, M., and Riggs, D. S.: Thyroid Collection of Radioactive Iodide and Serum Protein-Bound Iodine Concentration in Senescence, in Hypothyroidism and in Hypopituitarism, J. Clin. Endocrinol. 9: 430-439, 1949.

[9] Kountz, W. B.: Thyroid Function and Its Possible Role in Vascular Degeneration, American Lecture Series, Monograph in American Lectures in Circulation, edited by I. H. Page and A. C. Corcoran, Publication 108, Springfield, Ill., Charles C Thomas, Publisher, 1951.

[10] Cohn, E. J., and others: A System for the Separation of the Components of Human Blood: Quantitative Procedures for the Separation of the Protein Components of Human Plasma, J. Am. Chem. Soc. 72: 465-474, 1950.

[11] Gofman, J. W., and others: Lipoproteins and Atherosclerosis, J. Gerontol. 6: 105-119, 1951.

Nitrogen balance studies are very important and can be determined by measuring nitrogen intake and output over a five day period (fig. 2). Many older persons are in or tend to approach a state of negative nitrogen balance, and their protein loss may be prevented and protein restored.[12] This may be done in part with diet and the administration of proteins and hormones. Since the gastrointestinal tract plays an important part in the nutrition of any person, attempts should be made to evaluate its function if symptoms are present. Gastrointestinal roentgenograms and determination of the presence or absence of acid and enzymes in the contents may well be done. Gallbladder tests may be found necessary. The finding of various particles of undigested food in the stool permits determination of deficiencies of digestion. Most persons over 40 are in negative calcium balance, and the addition of calcium and minerals and vitamins A and D to the diet may be important. The results of calcium depletion may be readily recognized by roentgenograms after depletion is advanced. It is possible to determine the calcium balance in older persons, and this should be done in all questionable cases. The essential food substances are important in dietary regimens. Patients who have deficiencies, which, incidentally, are not generally recognized from blood studies, may have certain stigmas that help the physician to evaluate them. Vitamin A is deficient in about 15% of older persons and is characterized by skin in which the papillae stand out well against the background of the skin itself, the so-called "toad skin." Eye changes, too, may be used as a classical index to vitamin A deficiency in night blindness.

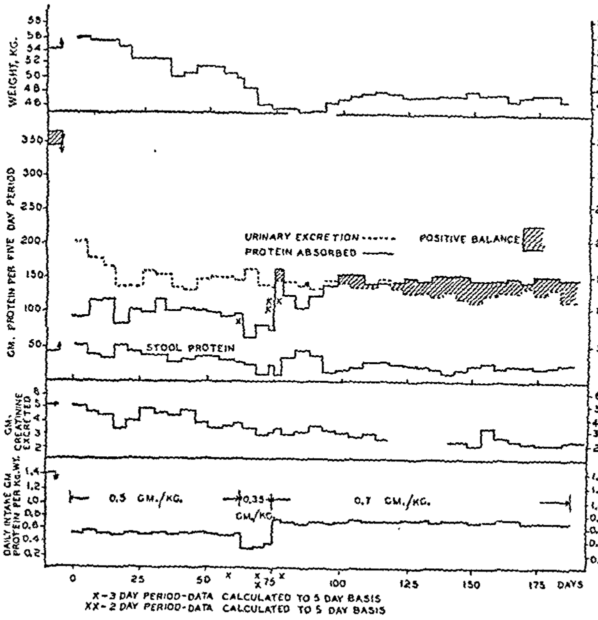

Fig. 2.—The record of a 72-year-old man who was in good health at the beginning of observation. He was in positive nitrogen balance on an unregulated diet. He was given a protein intake of different levels. Decreasing the protein level to 0.5 gm. per kilogram of body weight per day caused a negative balance, which persisted with 0.35 gm. and at which level he tended to lose weight. With 0.7 gm. he was in equilibrium most of the time. This is in contrast to most normal persons whose nitrogen balance is in equilibrium or slightly positive balance with a daily intake of 0.5 gm. of protein per kilogram of body weight.

Thiamine blood levels in 10% of older persons are lower than 2.0 mcg. per 100 cc. This deficiency is characterized by fatigue, redness and fissures of the tongue, impaired vibratory sense, and diminished reflexes. Riboflavin deficiency may be characterized by fissures in the mouth and reddened lips. Vitamin D deficiency does sometimes occur and is associated with skeletal changes. Ascorbic acid deficiency is characterized by capillary fragility, tendency to hemorrhage under the skin, and swollen and spongy gums in its later state, but early deficiency may be determined by the blood levels. Vitamin K defiicency occurs in liver and gallbladder disease, particularly in the event of disturbance of bile in the gastrointestinal tract.

DEGENERATIVE CHANGES

What, if anything, can be done about degenerative body changes has long been of concern. Some feel that the disease processes of old age are a fixed procedure, that nothing can be done once the tissues have degenerated, and that an infirm state of health must persist. Evidence that has accumulated at the Infirmary Hospital of St. Louis has definitely shown that this is not the case.[13] It has been shown that when nutritional substances such as vitamins, protein, and hormones are given in physiological amounts, the patient's disease may not progress. It has been shown further that the administration of these substances may restore a function to tissues that they formerly had and also give to certain tissues an anatomic appearance closely resembling that of an earlier age.

A word of caution should be inserted about the use of the endocrine substances, and the sex hormones are no exception. Before they are used, careful evaluation of the patient should be made. Attempts should be made to rule out conditions that contraindicate their administration. Thus, in heart disease, thyroid should be used with extreme caution, if at all. In women who have suggestions of tumor about the cervix or other conditions that might indicate cancer, careful gynecologic examination should be done before administration of the sex hormones. Also in men, the prostate should be carefully examined before and during administration of hormones, at least for a period of time. It may be unwise to give testosterone to patients who have nodules in the prostate. This substance must be administered carefully to persons who have had chronic urethritis or injury to the posterior urethra. One of the influences of androgen is to increase mucus secretions of the body, and the prostate also increases its secretion when the substance is administered. In older persons the inability of the prostate to discharge sometimes results in a swelling of the gland that, unless relieved, may cause urinary obstruction. In persons who do not have sexual intercourse prostatic massage may be instituted if testosterone must be given. Cysts in the breasts tend to develop in some women when estrogen is given. Caution should be the watchword in the administration of all hormone substances.

The important question at this time is what can be done by the average physician for the control of body degeneration. In the early stage of the occurrence of the phenomenon, say between the ages of 40 to 65 years, he can advise yearly examinations, with care taken to evaluate minor as well as major symptoms and findings. He can, in part at least, stave off anoxia of the body by controlling the rate of oxygen consumption as revealed by the basal metabolic rate. This may be done in part by the use of thyroid, iodine, and at least the B group of vitamins, and by limitation of tobacco, food, and alcohol consumption. The administration of thyroid has shown a protection of the vascular system from certain manifestations of arterial degeneration (see table).

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[12] Kountz, W. B.; Hofstatter, L., and Ackermann, P. G.: Nitrogen Balance Studies in Four Elderly Men, J. Gerontol. 6: 20-33, 1951.

[13] Kountz, W. B.: Revitalization of Tissue and Nutrition in Older Individuals, Ann. Int. Med. 35: 1055-1067, 1951.

Faulty lipoprotein metabolism can be controlled by the administration of estrogen, the need for which may be determined by the staining reaction of the epithelium of the vagina or tongue and the zone type electrophoresis. Administration of estrogen may also lessen the load of the adrenal cortex in its adjustment during this period of life. The physician can control nitrogen loss and conserve body energy by the administration of testosterone in physiological amounts if the patient is losing nitrogen readily. He can prescribe a diet relatively high in protein, moderate in fat and carbohydrate, and particularly low in sugar if the glucose tolerance curve is persistently at variance with normal. He can determine the blood cholesterol level and, if it is above 300 mg. per 100 cc., insist that the patient lower his fat intake if it is high.

In the latter stage of degeneration after the age of 65, the physician should carry the studies further to determine the rate of oxygen consumption, the rate of iodine uptake by the thyroid gland, and the activity of the adrenal cortex by determination of the 17-ketosteroids; other tests are the insulin tolerance technique and the glucose tolerance test for the pancreas and pituitary, the calcium-phosphorus ratio and the gonadotropic substance for the anterior pituitary activity, the concentration of the urine for defects in the posterior pituitary, and other general function tests of the body. He can establish the variance of the lipotropic factor from its usual picture and attempt to adjust it by such measures as regulation of the diet and administration of hormones. Defects in any of these systems may be corrected.

NUTRITION

It must be assumed that persons past middle age have certain deficiencies, and the recognition and correction of these deficiencies is highly important. It is necessary that changes be recognized at a relatively early period of life, just as the pediatrician recognizes the changes of growth and the need for growth substances and foods, as well as immunization, in childhood. It is believed, and I feel, that strong evidence is accumulating that nutritional factors of the body past midlife are the primary concern of health in later life and that we may lift the veil of chronic illness as it is known today by paying attention to such simple factors as rate of oxygen consumption or anoxemia, endocrine balance, and the diet of persons past 40.

The diet should depend on the established physiological need of each person. A high protein intake consisting of about 1.2 gm. per kilogram of body weight is important. No sugar is advised, including any food with a degree of sweetness that will raise the blood sugar rapidly. Most vegetables and fruits are considered important. Fat in the diet is desirable, particularly with moderation, up to 80 gm. daily, depending upon the degree of overweight, if any. Addition of minerals, including calcium, phosphorus, and the trace minerals, are advised. Vitamins such as thiamine, riboflavin, and ascorbic acid are indicated to supplement the food intake in most persons.

Medical care, although it is of prime importance, is not the only factor in the control of the health of the older person. The problem of stress or adjustment of the patient to his environment is extremely important, and consultation with a physician or psychiatrist to determine the idiosyncrasies in adjustment to life's problems that sometimes are reflected in the patient's position and home activities may be necessary. From the standpoint of his occupation, it is sometimes the patient's adjustment to the ever-increasing demands of a job that may be difficult and too wearing for him that is causing difficulty. Under such conditions emotional tension and hypertension do develop. Advice by the physician to the patient and perhaps to the company for whom he works may lead to a better understanding of the problems and to better work and output with less strain. The home life problem is often quite important, and sometimes the situation is difficult to reconcile. Men and women in middle age frequently experience personality changes and problems develop that may be reflected throughout the entire family. The adjustment of this may well take the proper advice of the physician to bring about a better understanding of the persons concerned in order to remove important points of stress.

Data on Patients with Low Metabolic Rates in Follow-Up Period of Five to Seven Years*

	No. of Patients	Average Age, Yr.	Initial Average Basal Metabolic Rate	No. with Clinical Evidence of Arterial Degeneration	No. of Vascular Accidents	No. of Cardiovascular Deaths
Group 1						
Business executives, treated for more than one year	27	55	—16.5% — 6.5%	5	1 (3.7%)	0
Business executives, untreated	20	..	—16.2% —20 %	5	4 (20%)	3
Group 2						
Office patients, treated	157	63	—16.8% — 4.2%	131	9 (5.7%)	5
Office patients, untreated	42	..	—16.4% —18 %	29	10 (23%)	8
Group 3						
Infirmary Hospital, patients treated	26	67.3	—17.9% — 7 %	26	11 (42.3%)	10
Infirmary Hospital, patients untreated	16	..	—18.0% —12.0%	16	12 (75%)	12

* Each of the treated persons received a clinical dose of thyroid that was, in most instances, progressively increased. Care was taken not to produce toxic manifestations, but an attempt was made to raise and maintain the basal metabolic rate at as near normal as possible.

Physical activity and rehabilitation are also important. Encouraging individuals to be active physically leads also to mental activity. Interest in one's environment and realization that he is an important factor in society, particularly with those whom he holds dear, are stimulating adjuncts to the health of the older person. Since the secret of both physical activity and mental alertness lies in the maintenance of good health, however, the medical aspect of this problem is far more important than any other in the field.

SUMMARY

Factors concerned in geriatric medicine are discussed that have been found to apply in the research laboratory as well as in private practice. The study of an older person must consist of an over-all evaluation of the patient, with particular tests of individual organs as well as of the over-all function of the body. It has been established that medical control of diseases that develop in the older person is of primary importance in the maintenance of health but that adjustment of the person to his environment and a feeling of importance in his social relationships assist in the program.

5600 Arsenal St. (9).

GROSS URINARY HEMORRHAGE: A SYMPTOM, NOT A DISEASE

Leroy W. Lee, M.D.
and
Edwin Davis Jr., M.D., Omaha

Gross urinary hemorrhage is a common symptom usually indicating urinary tract disease. The term hematuria is most frequently used to describe the finding of blood in the urine, but unfortunately it is too often considered a diagnosis in itself. The symptom of blood in the urine is frequently passed over by patient and physician alike without much concern. In most instances the bleeding subsides spontaneously and is forgotten until another episode occurs. When a patient comes for consultation because of painless bleeding, it is often difficult for the physician to insist on a complete urologic examination. Pain is not often a concurrent symptom in the most serious urinary diseases giving rise to bleeding. If patients realized how many persons die or have long periods of hospitalization because they waited for a second or third episode of bleeding before seeking special care, they would insist on immediate and complete urologic study.

TABLE 1.—*Causes of Hematuria*

- Medical
  - Thrombocytopenia
  - Hemophilia
  - Purpura
  - Polycythemia
  - Leukemia
  - Hodgkin's disease
  - Acute infectious diseases
  - Periarteritis nodosa
  - Scurvy
  - Uremic syndrome
  - Allergy
  - Bishydroxycoumarin (Dicumarol) poisoning
  - Glomerulonephritis
  - Embolism, thrombosis, and infarction
  - Interstitial nephritis
  - Passive congestion
  - Malignant nephrosclerosis
  - Lower nephron nephrosis
  - Nephrotoxic agents
- Renal
  - Trauma
  - Neoplasm
  - Polycystic kidney
  - Calculus
  - Tuberculosis
  - Other infections
  - Foreign body
  - Ptosis
  - Hydronephrosis
  - Pyelitis cystica
  - Hamartoma
  - Hemorrhagic papillitis
  - Cyst
- Vesical
  - Trauma
  - Neoplasm
  - Calculus
  - Tuberculosis
  - Cystitis
  - Hunner ulcer
  - Foreign body
  - Extravesical lesions
  - Cystitis cystica
  - Diverticulum
  - Varix
- Seminal Vesicular
  - Neoplasm
  - Infection
- Urethral
  - Trauma
  - Neoplasm
  - Infection
  - Foreign body
  - Calculus
  - Stricture
  - Diverticulum
  - Meatal stenosis
- Prostatic
  - Trauma
  - Neoplasm
  - Foreign body
  - Benign hyperplasia
  - Median bar
  - Calculus
  - Tuberculosis
  - Prostatitis
- Ureteral
  - Trauma
  - Neoplasm
  - Calculus
  - Tuberculosis
  - Other infections
  - Foreign body
  - Stricture
  - Hydroureter
  - Periureteral lesions
  - Ureteritis cystica

There is no more important single painless warning signal of disease than gross urinary hemorrhage, and it demands immediate urologic study to determine the cause and localization as soon as possible after onset. Cystoscopy is basic, and, if necessary, urethroscopic examination or ureteral catheterization and retrograde pyelography should be done. Blood appearing at the meatus or at the beginning of urination is usually from the urethra distal to the external sphincter. Blood from the prostatic urethra above the external sphincter (with respect to urination) is frequently terminal. Blood from the bladder or the upper urinary tract uniformly colors the entire urine sample. Pain in a ureteral distribution associated with clots and blood in the urine sometimes suggests which side is the source of bleeding.

In general, causes of urinary bleeding may be divided into three classes: intrinsic urinary lesions, lesions of the adjacent organs, and complications of a medical or systemic disease (table 1). The first group is the one with which the urologist is primarily concerned, but an intrinsic urinary lesion should be diagnosed or ruled out early in the study of any patient with hematuria.

Recently we reviewed the records of 1,000 consecutive patients with the symptom of gross urinary hemorrhage. Patients ranged in age between 5 and 94, but most of them were between 50 and 80. The age distribution of patients by decades is shown below:

0-9	20	50-59	204
10-19	25	60-69	222
20-29	103	70-79	134
30-39	115	80-89	31
40-49	144	90-99	2

Of the 1,000 patients there were 666 males and 334 females, a ratio of 2 to 1. The time elapsing between the first occurrence of gross urinary hemorrhage and the patient's consultation of a urologist varied from a few hours to as long as two years, as seen in the following figures.

1-6 days	303	6-11 months	85
7-30 days	233	11-18 months	71
1-5 months	193	Over 18 months	115

The number of patients in whom various symptoms associated with gross urinary hemorrhage occurred are listed. In approximately one-fifth of the patients the bleeding was not associated with pain or any other symptom.

None	168
Cystic symptoms	370
Vesical neck obstructive symptoms	156
Upper urinary tract pain	273
Urethral pain	3
Urethral discharge	5
Blood dyscrasia	5

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Methods of study used to establish a diagnosis of cause and localization of source of gross urinary bleeding follow.

Cystoscopy alone	468
Cystoscopy and retrograde pyelography	517
Others: kidney, ureter, and bladder film alone	10
Intravenous urography	59
Urethral instrumentation	15
Urethral smear	5
Blood study	5

In approximately one-half of the patients it was possible to establish a diagnosis (table 2) from the findings of simple office cystoscopy or other office procedures. The other patients required complete hospital study including cystoscopic examination, ureteral catheterization, and retrograde pyelography.

Table 2.—*Diagnosis in 1,000 Patients with Gross Hematuria*

	No. of Patients
Kidney	
Tumor	35
Pyelonephritis	30
Calculus	27
Trauma	20
Hydronephrosis	15
Polycystic disease	6
Chronic glomerulonephritis	6
Ptosis	4
Cyst	3
Hemorrhagic papillitis	3
Infarct	1
Malignant nephrosclerosis	1
"Sulfa" block	1
Ureter	
Calculus	53
Tumor	7
Stricture	4
Ureteritis cystica	1
Bladder	
Cystitis	220
Tumor	149
Calculus	12
Hunner's ulcer	4
Diverticulum	3
Secondary carcinoma	3
Trauma	2
Cystitis cystica	1
Varix	1
Prostate	
Benign hyperplasia	125
Chronic prostatitis	90
Carcinoma	21
Urethra	
Stricture	17
Calculus	13
Tumor	3
Rupture	3
Foreign body	1
Trauma	1
Diverticulum	1
Gonorrhea	4
Urinary infection (general)	12
Urinary tuberculosis	7
Essential hematuria	85
Systemic causes	
Hemophilia	2
Thrombocytopenia	1
Uremic syndrome	1
Bishydroxycoumarin (Dicumarol) poisoning	1

In approximately 8% of the patients no cause for the bleeding was found. These cases are classified as essential hematuria. Further study at subsequent periods of bleeding often clarifies diagnosis in such patients. The organ source of bleeding and the basic pathological conditions that gave rise to hematuria are listed below.

Kidney	152
Ureter	65
Bladder	395
Prostate	236
Urethra	43
General involvement	19
Systemic diseases	5
Essential hematuria	85

Infection	369
Tumor	218
Obstruction	161
Calculus	105
Trauma	26
Congenital anomaly	18
Foreign body	1
Medical causes	17
"Essential" hematuria	85

The methods of treatment of these 1,000 patients were:

No treatment	237
Systemic antibiotics and antiseptics alone	51
Kidney	
Lumbar nephrectomy	43
Transperitoneal nephrectomy	12
Pelviolithotomy	9
Pelvioplasty	2
Ureter	
Cystoscopic manipulation	16
Ureterolithotomy	10
Nephroureterectomy	6
Bilateral ureterosigmoidostomy	4
Transurethral endovesical ureterolithotomy	3
Nephroureterectomy, cystectomy and ureterosigmoidostomy	2
Ureterovesiconeostomy	1
Bladder	
Merbromin (Mercurochrome) instillations	217
Silver nitrate instillations	4
Transurethral fulguration or resection	53
Suprapubic cystostomy	25
Suprapubic cystostomy, segmental resection	15
Suprapubic cystostomy, electrosurgical resection and fulguration	33
Bilateral ureterosigmoidostomy and cystectomy	14
Litholapaxy	5
Prostate	
Massage	90
Perineal prostatectomy	66
Total perineal prostatectomy	2
Transurethral prostatectomy	41
Transurethral prostatectomy and bilateral orchiectomy	12
Suprapubic prostatectomy	5
Urethra	
Internal urethrotomy	5
Urethral instrumentation	11
Plastic repair	2
Excision diverticulum	1
Meatotomy	3

REPORT OF CASES

Case 1.—A 36-year-old physician complained of gross urinary hemorrhage with clots of four days' duration and associated right loin pain. Physical examination revealed a right loin mass, and retrograde pyelography showed a mass lesion of the right kidney. On surgical exploration an inoperable adenocarcinoma of the kidney that had already invaded the renal vein was found. The patient died within a few days. This situation illustrates the advanced state of disease that may exist in the urinary tract before the symptom of gross urinary hemorrhage appears.

Case 2.—A 52-year-old man had gross urinary hemorrhage of only six days' duration. Cystoscopy revealed a neoplasm in the bladder. Suprapubic operation showed an inoperable infiltrating carcinoma of the bladder invading the bladder wall and paravesical tissues. This was also a case of advanced disease before the appearance of urinary hemorrhage.

Case 3.—A 52-year-old man had had frequent intermittent, gross urinary hemorrhage with clots for five years. He had been studied elsewhere three years previously, and no cause had been found. Cystoscopy revealed a large papillary carcinoma of the bladder. The tumor had a pedicle. Suprapubic approach was made, and a tumor the size of a tennis ball was excised by the electrosurgical method. There has been no recurrence in seven years. In some instances, a patient may have hematuria over a long period and still benefit from surgery.

Case 4.—A 51-year-old man had a history of intermittent hematuria of two years' duration, nocturia of four to six years' duration (frequency of every hour), difficulty in starting, and a scant stream for one year. He was admitted to the hospital with acute urinary retention of 12 hours' duration. The patient had consulted several physicians during this time and had been treated with various medicaments without effect. Urologic consultation had not been advised by any of these physicians. Cystoscopy showed a papillary carcinoma of the bladder. Suprapubic operation was done and an extensive inoperable, infiltrating carcinoma of the bladder was found. He was dismissed from the hospital with a permanent suprapubic cystostomy tube in place, as the condition was hopeless. This patient is typical of the medically neglected patient with gross urinary hemorrhage.

SUMMARY

Gross urinary hemorrhage is a common symptom directing attention to the urinary tract. Immediate urologic study is imperative in every patient showing gross urinary hemorrhage. Whether or not associated with pain, gross urinary hemorrhage should be considered indicative of a serious urinary lesion until proved otherwise. In this series of 1,000 patients 22% had carcinoma in the urinary tract.

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NEUROSURGICAL TREATMENT OF COMPRESSION OF THE SPINAL CORD CAUSED BY MYELOMA

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Our interest in neurosurgical treatment of compression of the spinal cord caused by myeloma was stimulated by the observation of three such cases within a relatively short time. Laminectomy, decompression, and partial removal of the compressing myeloma were done in each instance. Gratifying clinical results were obtained in two of these cases despite the presence of extensive disease and great loss of function prior to operation; therefore, it was thought that a review of experience with this condition at the Mayo Clinic would call attention to the possible value of palliative operations.

REVIEW OF THE LITERATURE

Cases of myelomatous compression of the spinal cord in which relief was obtained by laminectomy and decompression, with or without subsequent roentgen therapy, have been reported. Jacox and Kahn [1] reviewed the literature and found three instances in which laminectomy and decompression had been performed. Klemme [2] reported his experience in five cases; in three of these, presumed to be due to solitary myeloma, good results had been obtained for three years, seven months, and six months, respectively, at the time of the report. In one case, an instance of multiple myeloma, satisfactory results had been maintained for 14 months at the time of the report. Postoperative roentgen therapy was used in all of Klemme's cases. Denker and Brock [3] reported two cases of localized vertebral myeloma with compression of the spinal cord. After laminectomy and decompression there was good clinical recovery; in one case this lasted for two years, in the other for nine months. Roentgen therapy was given in both instances. Wright [4] reported a case in which solitary plasma cell myeloma of a vertebral body had caused paraplegia. Laminectomy and implantation of radon seeds resulted in such improvement that the patient was walking normally one year later.

Paul and Pohle [5] reported three cases of compression of the spinal cord caused by solitary myeloma. Roentgen therapy was given after laminectomy and decompression. In one case, improvement was noted for 11 months, after which the condition became worse; symptomatic improvement was seen in another case for 16 months although roentgenographic evidence of extension was present; in the third case, rehabilitation was complete 9 months after operation. Snyder and Wilhelm [6] reported "spectacular disappearance of associated neurologic findings following laminectomy in a 49-year-old patient with paraplegia of four weeks' duration due to multiple myeloma." The patient walked unaided a month after operation; neurological examination four months later showed no abnormal findings. Postoperative roentgen therapy was given in this case.

REPORT OF CASES

A review of the cases in which the diagnosis of myeloma was made at the Mayo Clinic from 1930 to 1950 inclusive revealed that 31 (6%) of the 524 patients in which this diagnosis was made were paraplegic when examined. Laminectomy and decompression were done in 7 of these 31 patients.

CASE 1.—A 58-year-old white woman came to the clinic on Nov. 5, 1946. For about a year she had experienced pain in the midthoracic region. The pain progressed, and her physician made a diagnosis of neuritis. The pain steadily became more intense, and during the last six months she had noticed weakness in her legs and soon needed support in walking. One month prior to admission she had noticed incontinence and numbness in her legs.

General physical examination disclosed no important abnormalities except the neurological changes, which included moderate weakness of the lower extremities below the level of the 12th thoracic segment, diminished sensory perception below the level of the 10th thoracic segment, and incontinence of feces and urine. Laboratory examination yielded values within normal limits for hemoglobin, erythrocytes, and leukocytes. Serum protein was 6.3 gm. per 100 cc.; the albumin-globulin ratio was 1.5:1. Roentgenologic examination of the thoracic portion of the spinal column revealed osteoporosis of the body of the eighth thoracic vertebra. A diagnosis of compression of the spinal cord caused by either a primary malignant vertebral lesion or metastatic carcinoma was made. Myelography by means of ethyl iodophenylundecylate (Panto-

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[1] Jacox, H. W., and Kahn, E. A.: Multiple Myeloma with Spinal Cord Involvement, Am. J. Roentgenol. **30**: 201-205 (Aug.) 1933.

[2] Klemme, R. M.: Plasma Cell Myeloma Causing Cord Compression: Report of 5 Cases, South M. J. **26**: 692-695 (Aug.) 1933.

[3] Denker, P. G., and Brock, S.: The Generalized and Vertebral Forms of Myeloma: Their Cerebral and Spinal Complications, Brain **57**: 291-306 (Oct.) 1934.

[4] Wright, A. D.: Solitary Plasma-Celled Myeloma of the Vertebral Body, Causing Paraplegia, abstract, Proc. Roy. Soc. Med. **30** (pt. 2): 931 (May-Oct.) 1937.

[5] Paul, L. W., and Pohle, E. A.: Solitary Myeloma of Bone; a Review of the Roentgenologic Features, with a Report of 4 Additional Cases, Radiology **35**: 651-666 (Dec.) 1940.

[6] Snyder, L. J., and Wilhelm, S. K.: Multiple Myeloma with Spinal Cord Compression as the Initial Finding, Ann. Int. Med. **28**: 1169-1177 (June) 1948.

paque) showed complete obstruction of the cephalad flow of the medium at the upper margin of the ninth thoracic vertebra. Protein content of the cerebrospinal fluid was 80 mg. per 100 cc.

On Nov. 19, 1946, laminectomy was performed at the level of the eighth and ninth thoracic vertebrae. Reddish-brown, friable vascular tissue was found completely encircling and compressing the spinal cord extradurally. Biopsy revealed the tissue to be a plasma cell myeloma. As much of the tissue as possible was removed, and the wound was closed. When the patient was dismissed from the hospital on the 17th postoperative day, she had no pain and had regained some strength in her legs. A course of roentgen therapy was given. In May, 1948, 18 months after operation, she was free of pain, walked normally, and had no incontinence. In a follow-up study 63 months after operation, she stated that she was able to walk normally and do her housework; she was free of pain and had normal sphincter control.

Case 2.—A 42-year-old white man entered the clinic on Nov. 1, 1949, complaining of back pain of five months' duration. In July, 1949, he had undergone an operation for a protruded fourth lumbar disk. He came to the clinic for examination because of persistent pain. Roentgenologic examination revealed a destructive lesion in the body of the first lumbar vertebra. Myeloma and Ewing's tumor were considered in the differential diagnosis. During examination, the patient experienced intense pain in his back when he stooped over; progressive paraplegia developed within the next few days.

Data on Seven Patients with Compression of the Spinal Cord Produced by Myeloma

Case No.	Myeloma	Erythrocytes, Millions	Leukocytes	Hemoglobin, Gm. (Photoelectric Method)	Skeletal Roentgenographic Findings	Method of Diagnosis	Date of Operation	Comment
1	Solitary	4.44	8,600	12.3	Lesion in the 8th thoracic vertebra	Biopsy	11/19/46	Good results; roentgenograms in 1950 showed multiple myeloma; Bence Jones protein in urine
2	Multiple	4.56	6,200	13.9	Lesion in the 1st lumbar vertebra	Biopsy Sternal aspiration	11/14/49	Returned to work; died in June, 1951
3	Multiple	5.28	2,500	15.5	Lesion in the 4th, 5th, and 6th thoracic vertebra	Biopsy Sternal aspiration	3/ 2/50	Good results
4	Multiple	3.59	6,100	11.0	Lesion in the 4th thoracic vertebra	Biopsy Sternal aspiration	9/ 7/50	No relief; died 9 months after operation
5	Solitary?	4.21	9,000	15.2	Lesion in the 2nd thoracic vertebra, contiguous soft tissue, and transverse process	Biopsy	7/20/34	Only slight improvement; died in October, 1935
6	Solitary?	....	11,900	16.1	Lesion in the 7th thoracic vertebra and contiguous soft tissue	Biopsy	7/ 4/42	No improvement; died January, 1944
7	Solitary	4.57	6,100	13.6	Lesion in the 5th thoracic vertebra	Biopsy	12/10/30 3/ ?/32	Good results; died May, 1938

Emergency laminectomy at the level of the first lumbar vertebra was done on Nov. 14, 1949, at which time the patient was almost completely paralyzed from the hips down and was incontinent. Subtotal removal of a myeloma and decompression of the spinal cord were done. The cortex of the vertebra posteriorly was fractured and displaced into the intraspinal space, with extensive compression of the dural sac. The root of the first lumbar nerve on the right side was sectioned extradurally to permit mobilization of the spinal cord and removal of the fractured cortical bone.

The diagnosis of multiple myeloma was made postoperatively by studies of bone marrow. Administration of urethan was begun. The patient was dismissed from the hospital on the 36th postoperative day, at which time he was on crutches and wearing a back brace. Within three months he was able to walk without support and soon returned to work. In November, 1950, one year after operation, he suffered a spontaneous fracture of the right humerus; however, he was again able to return to work. In May, 1951, he began to fail rapidly and died in June, 1951, 19 months after operation.

Case 3.—A 65-year-old white man came to the clinic on Feb. 26, 1950. He had noticed weakness of his legs in October, 1949, and two weeks prior to admission he could no longer walk. The patient was totally paraplegic and incontinent. Sensory loss was complete below the level of the fifth thoracic dermatome. Roentgenologic examination revealed collapse of the fourth thoracic vertebra and erosion of the pedicles of the fifth and sixth thoracic vertebrae. The diagnosis was that of a malignant lesion of the vertebrae, probably primary, with intraspinal extension. Results of hematological studies were within normal limits except for a leukocyte count of 2,500 per cubic millimeter of blood. Serum protein was 5.6 gm. per 100 cc., and the albumin-globulin ratio was 2:1. Results of urinalysis, including tests for albumin and Bence Jones protein, disclosed no abnormalities.

Laminectomy and decompression of the spinal cord were performed on March 2, 1950. Biopsy revealed a myeloma. Reddish-brown, friable vascular tissue completely encircled the extradural aspect of the spinal cord. Subtotal removal of this tissue was done, with extradural bilateral rhizotomy of the fifth and sixth thoracic nerves. At the conclusion of these procedures, the spinal cord appeared to be well decompressed, and pulsations of the dura were noted. Postoperatively, the diagnosis of multiple myeloma was made by studies of bone marrow. The patient received roentgen therapy and urethan during convalescence. At discharge on May 14, 1950, he was able to walk with the aid of crutches. His back was supported by a brace. Improvement continued, and within several months he was able to walk normally and had regained sphincter control. At a follow-up examination 24 months after operation he had good sphincter control, was able to walk normally, and considered himself in good health.

Case 4.—A 64-year-old white woman was admitted to the clinic on Sept. 1, 1950. She had been hospitalized elsewhere because of the possibility of tuberculosis; however, no bacteriological evidence of the disease had been obtained. On Aug. 18, 1950, after an attack of coughing, the patient experienced pain in the upper part of the thoracic region, followed by slowly progressive numbness in both legs; within five days, loss of sensation extended to the nipple line. She was completely paraplegic and had no sphincter control. Neurological examination showed flaccid paraplegia with complete loss of sensation below the level of the fourth thoracic segment and incontinence. On roentgenologic examination an irregular mass in the upper right lung and a compression fracture of the fourth thoracic vertebra were seen. Serum protein was 7.6 gm. per 100 cc., with an albumin-globulin ratio of 1:1.2; absolute values for albumin and globulin were 3.4 and 4.2 gm. per 100 cc. respectively. Results of urinalysis were normal. A preoperative diagnosis of a metastatic lesion of the fourth thoracic vertebra with compression of the cord was made.

On Sept. 7, 1950, laminectomy at the level of the fourth and fifth thoracic vertebrae was done. Reddish-brown, friabl vascular neoplastic tissue filled the intraspinal space and completely encircled the spinal cord. Biopsy identified the tissue as a plasma cell myeloma. As much of the tumor as possible was removed. In order to provide further decompression of the spinal cord, the third and fourth thoracic nerves on the right side were sectioned extradurally. The dura was then seen to pulsate, which had not been noted previously. Diagnosis of multiple myeloma was made postoperatively by studies of bone marrow. Bence Jones proteinuria was found. The patient received urethan and roentgen therapy. No change was noted in the neurological status when she was discharged. Her condition gradually became worse, and she died nine months after operation.

Case 5.—A 40-year-old white man came to the clinic on July 4, 1934, with progressive loss of sensation in the legs of six months' duration and paraplegia of five months' duration. Neurological examination disclosed transverse myelitis at the level of the second thoracic segment. Results of hematological examinations and urinalysis were within normal limits. Roentgenologic examination of the thoracic part of the spinal column revealed a destructive process of the second thoracic vertebra. The preoperative impression was that of a primary tumor of the spinal cord.

Laminectomy was done on July 20, 1934, at which time partial removal of an extradural myeloma and decompression of the spinal cord were accomplished. No change in the neurological status was seen postoperatively. Roentgen therapy was given. The patient died 16 months after operation, which had effected only slight improvement in the strength of his legs.

Case 6.—A 49-year-old white man entered the clinic on June 16, 1942. He had been well until 1940, when he noted pain in the upper part of the thoracic region, and in December, 1941, he had experienced difficulty in walking. Paraplegia and incontinence had appeared seven weeks prior to admission. Neurological examination disclosed paraplegia from the 12th thoracic segment down, loss of sensation from the 10th thoracic segment down, and incontinence. Hematological examinations disclosed no abnormalities. Results of urinalysis were within normal limits except for a small amount of albumin (1+). A compression fracture of the seventh thoracic vertebra was found on roentgenologic examination. The preoperative impression was that of a metastatic tumor.

Laminectomy at the level of the seventh thoracic vertebra was performed on July 4, 1942. An extradural, reddish-brown neoplasm encircled the spinal cord. The tissue was found to be myeloma on biopsy. Subtotal removal was done. No change in the patient's neurological status was noted postoperatively. Roentgen therapy was given. The patient died 18 months after operation, having received no benefit from decompression of the spinal cord.

Case 7.—A 38-year-old white man was admitted to the clinic on Dec. 2, 1930, with a history of back pain of one year's duration. One week before admission he had suddenly become paraplegic. Neurological examination showed paraplegia, incontinence, and hypesthesia from the level of the fifth thoracic segment down. Hematological studies disclosed no abnormalities; urinalysis revealed a moderate amount of albumin (2+). Roentgenograms showed destruction of the body of the fifth thoracic vertebra. A metastatic tumor was suspected.

On Dec. 10, 1930, laminectomy disclosed a friable, vascular neoplasm encircling the spinal cord; biopsy revealed the lesion to be a myeloma. Subtotal removal was done. Extradural section of the fifth and sixth thoracic nerves was performed bilaterally to facilitate further decompression of the cord. Roentgen therapy was given several times postoperatively. Within a few weeks the patient was ambulant, was free of pain, had good sphincter control, and had returned to work. Recurrence of the signs and symptoms of compression of the spinal cord occurred in January, 1932, and the patient was operated on elsewhere in March, 1932. He again returned to work until 1938, when his general health failed and he died.

SUMMARY AND CONCLUSIONS

The table presents a summary of these seven cases. Gratifying results were obtained in four cases, and the patients were well and ambulant for 84, 63, 24, and 19 months respectively. In all our cases and in most of the cases in the literature, the osseous defects were solitary or were limited to contiguous areas. The excellent results obtained by Snyder and Wilhelm[6] indicate that patients who have multiple myeloma respond as well to laminectomy and decompression as do patients who have localized myeloma, the limiting factor being the inherent difference in the ultimate prognosis in the two conditions.

In none of our cases was the diagnosis of myeloma made preoperatively. The diagnosis in each case was compression of the spinal cord of indeterminate origin. Among the conditions considered were metastatic carcinoma, tuberculosis of the vertebrae, Ewing's tumor, and primary neoplasm of the vertebrae. Thus, it would appear that patients with compression of the spinal cord as a result of myeloma, either solitary or multiple, should be given the benefit of palliative operative procedures. Even though the lesions are strongly suspected of being metastatic, the neurosurgeon should offer palliation unless laminectomy and decompression clearly are contraindicated. In a gratifying number of cases the results of such surgical therapy are rewarding.

Anesthesia in Cardiac Disease.—First principle to be observed in the presence of heart disease is the necessity for adequate oxygenation, and this implies two different processes. First, the patient must receive considerably more oxygen than is contained in the atmosphere; and the worse the cardiac condition the greater the percentage of oxygen must be in the inspired mixture. Therefore nitrous oxygen should play little, if any, part in anesthesia for really severe cases of heart disease. Secondly, the patient's oxygen requirements should be diminished by adequate premedication and the establishment of metabolic conditions as close as possible to basal. . . . The old view that the use of depressant drugs should always be avoided in the presence of heart disease is quite wrong. Rather is it essential that emotional disturbances should be minimal, as these may precipitate an attack of angina in patients with coronary disease, or pulmonary edema in patients with mitral stenosis. Therefore even after ample premedication it is necessary to induce anesthesia by the intravenous rather than the inhalational route. . . . Cardiac patients need smaller doses of all anesthetic drugs than do healthy individuals. . . . To avoid hypoxia during administration, it is altogether essential to avoid any form or degree of respiratory obstruction; the most important single step to this end is preliminary topical anesthetization of the larynx. . . . If it is not considered necessary to intubate in a particular case, anesthetization of the larynx is even more useful as it abolishes all possibility of laryngeal spasm, and in itself almost completely ensures a smooth administration. . . . After the avoidance of anoxia, the next most important point is the preservation of an adequate blood pressure. Cardiac patients have very little ability to increase their cardiac output in response to peripheral vasodilatation, and they stand fall of blood pressure badly, and this may lead to coronary or cerebral insufficiency. E. H. Rink, M.D., Discussion on Anesthesia in Cardiac Disease, *Proceedings of Royal Society of Medicine*, June, 1953.

DECUBITUS ULCERS TREATED WITH DRIED BLOOD PLASMA

PRELIMINARY REPORT

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Over the past 30 years, there have been some 40 reports in the literature on the therapy of decubitus ulcers covering a multitude of treatments with ointments, pastes and solutions, insulin [1] and blood transfusion.[2] Most of the latest references concern surgical treatment and the use of streptokinase and streptodornase [3] as an adjunct to surgical closure.

In 1946 a study was made on 80 paraplegic patients with decubitus ulcers in the Newton D. Baker Hospital in Martinsburg, W. Va., by Barker and co-workers,[4] who hypothesized that the ulcers themselves established a vicious circle and contributed to the patient's general debility. One patient was found to have lost 50 gm. of protein in 24 hours from five ulcers. The conclusion of this study was that surgical closure was the therapy of choice. This conclusion seems justified unless a more conservative but effective method of healing can be found that will prevent plasma loss and the debilitating phenomena.

The specific cause of decubitus ulcers has not been established. The pathogenesis of induced decubitus ulcers in rabbits was studied by Groth [5] in 1942. In this study, ulcers were developed by exerting pressure over the gluteal region. The amount and time of pressure was varied. The animals were killed at various stages, and the lesions were examined microscopically and macroscopically to determine the effects of pressure. These studies suggested that there was some correlation between weight, pressure, and time of exposure of an animal in the formation of a decubitus ulcer. Their findings suggested mechanical factors as a primary cause of such ulcers.

Malnutrition has long been recognized as a definite deterrent to healing. Assuming the cause of decubitus ulcers, or at least a major contributing factor, to be ischemia and, consequently, poor nutrition to the part, and in view of the general factors of malnutrition, it would seem logical to expose the cells to as natural a nutritional environment as possible in order to promote more rapid healing. Plasma appeared to be a logical substance to provide such an environment. A clinical study was started on this premise.

The purpose of this report is to present preliminary observations made over the past 14 months of decubitus ulcers in patients with spinal cord injuries, treated with a paste consisting of dried blood plasma and Peruvian balsam. A controlled experiment was difficult owing to the difficulty of finding paired lesions. The results of treatment in this series have been evaluated on the basis of scar tissue type and rapidity of healing as compared with these factors in other lesions for which some other therapy was used.

MATERIALS AND METHODS

Selection of Patients.—Eleven patients were included in this study. All had normal blood and blood chemistry findings. Five of the patients had lesions that were deeply undermined. Patients with underlying osteomyelitis were not considered suitable for the study.

Method of Application.—The vehicle selected for the plasma was Peruvian balsam because of its mild antiseptic action and its well-established place in the treatment of wounds. A quantity sufficient to make the plasma into a very thick paste was used. The paste was packed into the ulcer and covered with a single layer of sterile gauze. A piece of oiled silk or other moisture-proof material, slightly larger than the gauze, was placed over the single layer of gauze, and the area was then sealed with elastic adhesive tape. Protective dressings were placed over this to absorb any possible seepage. The dressings were ordinarily left undisturbed for three days and changed on the fourth day. A fresh paste was made for each dressing.

Observations.—The rapidity of granulation and healing was striking in all instances and was especially noted in those ulcers in which there was necrosis and infection, where the débriding action of the paste was most significant. One long-standing ulcer with considerable necrosis complicated by a pyocyanic infection was clean after the third dressing (12 days), and an excellent bed of granulation was established.

In all instances, rapid growth of granulation tissue was noted after the third or fourth application. Bleeding occurred occasionally. In one case only, the treatment was discontinued because of frank bleeding after application of the paste. The growth of tissue became so profuse in some instances that discontinuation of therapy was considered; however, it was noted that with continuing treatment the granulations reached a plateau and then were literally tucked in by the progression of the epithelium. Epithelial growth was slow until the ulcer was filled with clean granulation. The least responsive type of ulcer was that in which firm scar tissue had

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Fellow in Physical Medicine and Rehabilitation aided by a fellowship from the National Foundation for Infantile Paralysis (Dr. Clark) and Professor and Chairman, Department of Physical Medicine and Rehabilitation, New York University College of Medicine (Dr. Rusk).

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already formed. In the ulcers without scar tissue, the new epithelium more closely approximated normal skin rather than the thin type usually covering the scarified area.

While receiving this type of conservative treatment the patients were able to be on a partial program of active rehabilitation training that (*a*) minimized the possibility of the development of renal calculi; (*b*) reduced the tendency to greater osteoporosis; (*c*) helped in general to maintain the normal metabolic processes; and (*d*) maintained a high level of morale in the patient. In complete paraplegia, with both paralysis and anesthesia, there was obviously no pain problem; however, a number of patients with partial paralysis with pain sensation intact complained bitterly of burning from the paste. This burning was obviated by the use of powdered plasma, without the Peruvian balsam. There was no instance of homologous serum jaundice in these patients treated with the local application of dried blood plasma.

COMMENT

This report is based entirely on clinical observation. The difficulty of a control series has been stated. The clinical observations, however, have so impressed us that we have enlarged our working hypothesis beyond the beneficial environmental role of dried plasma. With the dissolution of necrotic tissue and the rapidity with which the wounds were débrided, it might be assumed that the dried plasma contains a protease that becomes activated. This would explain the accelerated débridement resulting in a more promising and normal cellular environment for new granulation tissue. We have used the dried plasma up to this time only on decubitus ulcers, but it is hoped that it may prove beneficial in other types of indolent ulcers. Laboratory studies are now in progress to give an objective basis for use of this therapy in this type of ulcer and to substantiate the clinical findings. For these studies, dried plasma alone without Peruvian balsam is being used.

SUMMARY

Clinical observation was made of decubitus ulcers treated with dried human blood plasma. From this study, it was noted that with local application of the dried plasma there was a débriding effect on necrotic and infected tissue and rapid granulation followed by acceleration of epithelial coverage. In preliminary observations, there is some presumptive evidence of proteolytic activity in dried plasma.

400 E. 34th St. (16) (Dr. Rusk).

SHOULDER-HAND SYNDROME

SYMPATHETIC BLOCK COMPARED WITH CORTICOTROPIN AND CORTISONE THERAPY

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and
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It is the purpose of this paper to compare the effects of cortisone and corticotropin (ACTH) with those of stellate blocks in management of the shoulder-hand syndrome (reflex dystrophy of the upper extremity). Owing to the present lack of such comparative information on these methods of treatment, we wish to present our observations. The concept of the shoulder-hand syndrome has been widely discussed in previous publications.[1]

TREATMENT OF SHOULDER-HAND SYNDROME

Many forms of therapy have been attempted with largely unsatisfactory results. Our observations, like those of others, had led us to regard sympathetic ganglion block with procaine, or similar substances, as the most beneficial nonsurgical treatment for the shoulder-hand syndrome.[2] To date, of 126 cases of this entity under our observation, 69 have been treated by stellate blocks. Complete recovery or great improvement occurred in 22 patients (31.8%), 34 (49.3%) have received appreciable benefit, and 13 (18.9%) had no response.

With the advent of corticotropin and cortisone, it seemed desirable to investigate the action of these agents in reflex dystrophy. In spite of the voluminous literature relating to corticotropin, cortisone, and other steroids, few references are made to their use in this disorder, apart from our own initial report.[1m] It probably is relevant to mention here that from our observations of untreated patients it seems clear that a natural recovery from pain and disability is apt to occur more rapidly at the shoulder than at the hand and fingers. The effect on the hand, with regard to pain, tenderness, swelling, limited flexion and extension, muscular atrophy, cutaneous atrophy, and vasomotor disturbances and contractures with their more likely irreversible and disabling alterations, constitutes a critical measure of the usefulness of any therapeutic agent or procedure in this condition.

SYMPATHETIC BLOCK

In the 69 cases so treated, the stellate ganglion was injected by the anterior (paratracheal) approach. An injection of 10 cc. of 0.5% procaine hydrochloride solution, or its equivalent, was used for the initial infiltration. Thereafter 20 cc. of 1% solution was the usual amount

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Dr. Neustadt is a clinical fellow in rheumatology by grant of the U. S. Public Health Service.

Because of lack of space, some of the bibliographic references have been omitted from THE JOURNAL and will appear in the authors' reprints.

From the Department of Rheumatology, Lenox Hill Hospital, the Hospital for Joint Diseases, and the New York University Post-Graduate Medical School.

[2] (*a*) Cobb, S.: Review of Neuropsychiatry for 1951, A. M. A. Arch. Int. Med. **90**: 410 (Sept.) 1952. (*b*) Evans, J. A.: Reflex Sympathetic Dystrophy: Report on 57 Cases, Ann. Int. Med. **26**: 417, 1947. (*c*) de Takats, G.: Causalgic States in Peace and War, J. A. M. A. **128**: 699 (July 7) 1945. (*d*) Rasmussen, T. B., and Freedman, H.: Treatment of Causalgia: Analysis of 100 Cases, J. Neurosurg. **3**: 165, 1946. (*e*) Shumacker, H. B., Jr.; Speigel, I. J., and Upjohn, R. H.: Causalgia, the Role of Sympathetic Interruption in Treatment, Surg., Gynec. & Obst. **86**: 76, 1948. Steinbrocker.[1b]

until a satisfactory response was produced or until four to five blocks had shown no effect. Table 1 gives the data on 14 consecutive patients with reflex dystrophy of the upper extremity treated with sympathetic blocks that are representative of our experience with this procedure in 69 cases.

Of these 14 patients, 7 were in phase 1, 2 were in phase 2, and 5 were in phase 3. Phase 1 was defined as the period of painful shoulder dysfunction, painful swelling of the hand and digits on the same side, and, usually, increased surface temperature and vasodilation; phase 2, the period of gradual resolution of those features seen in phase 1, with the appearance of early trophic changes, onset of vasospasm, and coldness of the hand and fingers; and phase 3, the period of trophic changes, such as atrophies, contractures, deformities, and other irreversible changes. Table 2 shows the results according to the phase of the disease at the time treatment was started. In phases 1 and 2 recovery of shoulder function was almost invariably accomplished, while in phase 3 the result was poor. In phase 1 hand signs were eliminated in all but one instance, whereas in phases 2 and 3 relief was chiefly from pain; there was but little influence on the trophic changes and disability of the hand. Complete relief of shoulder pain was obtained in all but one case. Hand pain was completely relieved in all except 1 patient.

TABLE 1.—*Results in Fourteen Patients with Shoulder-Hand Syndrome Treated by Stellate Ganglion Block*

Clinical Features	No. of Cases	Complete Recovery	Greatly Improved	Slightly Improved	No Improvement
Shoulder pain..........	14	13	0	1	0
Shoulder signs.........	14	12	0	1	1
Hand pain.............	14	14	0	0	0
Hand signs............	14	5	2	3	4
Swelling...............	10	5	2	1	2
Trophic changes.......	5	0	1	3	1

TABLE 2.—*Results of Stellate Ganglion Block in Fourteen Cases According to Phase of Shoulder-Hand Syndrome*

Symptoms	No. of Cases	Complete Recovery	Greatly Improved	Slightly Improved	No Improvement
Phase 1..................	7	..	..	..	..
Shoulder pain.........	7	7	0	0	0
Shoulder signs........	7	7	0	0	0
Hand pain............	7	6	0	0	1
Hand signs...........	7	6	0	0	1
Phase 2..................	2	..	..	..	..
Shoulder pain.........	2	2	0	0	0
Shoulder signs........	2	2	0	0	0
Hand pain............	2	2	0	0	0
Hand signs...........	2	1	0	0	1
Phase 3..................	5	..	..	..	..
Shoulder pain.........	5	4	0	1	0
Shoulder signs........	5	3	0	1	1
Hand pain............	5	5	0	0	0
Hand signs...........	5	0	1	2	2

In the early phases of the condition, swelling and vasomotor disturbances of the hand decreased after sympathetic blocks.

No rigid routine was established for the treatment of these patients. We administered 1 to 14 stellate blocks at two to seven day intervals on an ambulatory basis. In the majority of the patients seven injections or less were required. Whether the recently instituted continuous sympathetic block done in the hospital provides better results has not been determined. The anterior (paratracheal) stellate block is the safest technique and is comparatively free from complications. In seven years the complications were a small hematoma that occurred during the residual effect of previous anticoagulants and a pneumothorax probably not fairly attributable to the technique. Minor and transient reactions, arising from procaine, needle punctures, or anxiety, appeared in about 20% of the patients but did not interfere with continuation of the procedure.

CORTICOTROPIN AND CORTISONE

To date we have treated 13 cases of complete shoulder-hand syndrome with corticotropin and cortisone or both. This study was based on a series of patients who were followed up long enough to permit comparison of results of hormone therapy with those of stellate blocks, within the limitations of such small series. The two groups were comparable as to sex, duration of symptoms, and etiology.

TABLE 3.—*Results of Corticotropin and/or Cortisone Therapy in Thirteen Cases of Shoulder-Hand Syndrome*

Clinical Features	No. of Cases	Complete Recovery	Greatly Improved	Slightly Improved	No Improvement
Shoulder pain........	13	9	2	1	1
Shoulder signs.......	11	5	2	3	1
Hand pain...........	13	9	3	0	1
Hand signs..........	13	5	4	3	1
Swelling..............	12	12	0	0	0
Trophic changes.....	6	0	2	2	2

TABLE 4.—*Results of Corticotropin and/or Cortisone Therapy in Thirteen Cases According to Phase of Shoulder-Hand Syndrome*

Features	No. of Cases	Complete Recovery	Greatly Improved	Slightly Improved	No Improvement
Phase 1..................	2	..	..	..	..
Shoulder pain.........	2	2	0	0	0
Shoulder signs........	1	1	0	0	0
Hand pain............	2	2	0	0	0
Hand signs...........	2	2	0	0	0
Phase 2..................	7	..	..	..	..
Shoulder pain.........	7	4	2	0	1
Shoulder signs........	6	2	2	1	1
Hand pain............	7	3	3	0	1
Hand signs...........	7	2	3	1	1
Phase 3..................	4	..	..	..	..
Shoulder pain.........	4	3	0	1	0
Shoulder signs........	4	1	1	2	0
Hand pain............	4	4	0	0	0
Hand signs...........	4	1	1	2	0

Of those receiving corticotropin and/or cortisone, two patients were in phase 1, seven were in phase 2, and four were in phase 3. Table 3 gives an analysis of the results. In table 4, the outcome is summarized according to the phase of the disease. In four of these patients there was bilateral shoulder-hand involvement. Five patients were treated with corticotropin, seven with cortisone, and one with both hormones consecutively. Previous treatment included physiotherapy, alcohol-iodine injections periarticularly into "trigger-points," analgesics orally, and stellate ganglion blocks. These measures had afforded only transient, slight relief in some of the patients.

All symptoms and signs were abolished in four patients, and great improvement (almost complete resolution) occurred in four others. One patient failed to respond; however, he had hypertensive cardiovascular disease and had suffered a cerebral accident. For these reasons he was given small doses of corticotropin (25 mg. daily) for only one week. Although larger amounts might have been more effective, the general condition of the patient was such that further therapy might have proved hazardous.

Although relief of shoulder pain occurred in all but four patients, shoulder function was completely recovered in only two patients in phase 2 and in but one of four patients in phase 3. Hand pain was eliminated or diminished in all but one patient in phases 2 and 3, while a relatively poor improvement, closely approximating the responses at the shoulder, was noted in the hand signs. Swelling of the hand disappeared in all instances during treatment. Trophic changes were significantly improved in only two of the six patients who had them.

DOSAGE OF CORTICOTROPIN AND CORTISONE

Doses of each hormone were initiated at fairly high levels and regulated according to the patients' responses. In general 200 mg. of cortisone daily was given until definite improvement in pain, disability, and swelling appeared, usually in 3 to 10 days. Thereafter the dosage was reduced by small quantities until the minimum maintenance amount (75 to 100 mg. daily) was reached. A period of two to six months of maintenance at this level or lower was required before gradual reductions and test withdrawals indicated that treatment could be discontinued without return of symptoms. Corticotropin was administered in the same manner in half the doses for equivalent effects.

Complications occurred in two patients. A 60-year-old man with diabetes, arteriosclerosis, and coronary disease, while receiving corticotropin with excellent results, had sudden occlusion of arteries in both lower extremities below the femorals, with superficial and deep phlebitis of both legs. He was treated with anticoagulants, vasodilators, and later with lumbar sympathetic blocks, and eventually recovered. Another patient, accepted as a calculated risk owing to psychiatric disturbances, had a manic psychosis, and treatment had to be discontinued.[2a] Mild edema of the ankles and lower legs occurred in several cases during administration of the hormones but usually disappeared after dosage was reduced. All patients were kept on a salt-poor diet with the addition of potassium chloride in tablet form.

Our follow-up period varied from one month to one and one-half years, with an average of eight months. Two patients who had improved relapsed soon after therapy was terminated; they responded well to further treatment and showed a good final result. In spite of management in a hospital, with routine dietary regulation and continuous observation, the patients under therapy with corticotropin and cortisone needed careful regulation of dosage to avoid side-effects. The two important complications required termination of therapy. Two patients not included in this series have received hydrocortisone by local injection about the shoulder without appreciable improvement.

COMPARISON OF CORTICOTROPIN AND/OR CORTISONE AND STELLATE BLOCK

Although impressive results were seen in the patients receiving corticotropin and cortisone, on the whole the group that received stellate blocks showed a better response. The therapeutic action of the hormones, as with sympathetic nerve block, was uniformly better when treatment was instituted in the early stages of the condition. The two series are too small to reflect more than the trend of responsiveness to the methods of treatment. Further analysis, however, reveals that complete or partial relief of pain at the shoulder and hand took place in a significant number in both groups but in an appreciably higher proportion of those receiving stellate blocks.

Athough shoulder function was completely recovered within a short period in 12 of the 14 patients treated with sympathetic blocks, only 5 of 11 recovered this function in the group receiving hormones. Hand signs were greatly improved in 7 out of 14 receiving blocks, while 9 out of 13 receiving corticotropin and/or cortisone showed the same response. The slightly better effect of the hormones is due mainly to the almost constant responsiveness of hand swelling, more so than with sympathetic blocks. Trophic changes and contractures were not favorably changed by either mode of therapy. From the standpoint of time and the beneficial effects produced, patients receiving sympathetic blocks made more rapid improvement. No complications resulted from the stellate blocks. The only unpleasant sequel of the technique was occasional transient hoarseness or paratracheal (esophageal) discomfort on swallowing, which disappeared shortly.

As in one of the patients already mentioned, experience with cortisone and corticotropin has suggested the possibility of their fostering thromboembolic phenomena in some patients, especially those with vascular disease. In Russek's series of 17 patients with postinfarctional syndrome, no thromboembolic complication occurred.[3] Despite this optimistic experience, it probably remains an open question whether anticoagulants should be administered prophylactically before corticotropin or cortisone is given to patients with known vascular disease. This question was raised in our group by the recurrence of clinical and electrocardiographic signs of coronary occlusion in one of five patients with postinfarctional syndrome, who was receiving cortisone. This may have been a coincidence, but the considerations are too serious for generalization from our limited experience. The accepted contraindications and precautions for these compounds also apply to their use in the shoulder-hand syndrome.

Steroid therapy, which gives almost as good results as stellate blocks, apparently should be reserved for patients with the shoulder-hand syndrome who are sensitive to needle punctures in delicate locations and for those who are unresponsive to blocks, provided there are no contraindications. The great advantages of blocks are the rarity of contraindications, the usually shorter period of treatment without any further maintenance therapy, and the lesser likelihood of complications. A small number of patients who failed to respond to stellate blocks later were benefited by corticotropin or cortisone, but an approximately similar group unresponsive to the hormones were benefited by stellate blocks. Several patients, not included in these series, who were inadequately relieved by either blocks or steroids, improved when both forms of therapy were applied simultaneously.

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[3] Russek, H. I.; Russek, A. S.; Doerner, A. A., and Zohman, B. L.: Cortisone in Treatment of Shoulder-Hand Syndrome Following Acute Myocardial Infarction, A. M. A. Arch. Int. Med. 91:487 (April) 1953.

Our results show that a thoroughly satisfactory and widely effective nonsurgical method of therapy still remains to be found for the management of the shoulder-hand syndrome, especially in its later stages. At this time, in view of the above considerations, sympathetic blocks still are regarded as the treatment of choice, with corticotropin or cortisone as the second method. Both measures may be carried out on an ambulatory basis, unless some complication makes hospitalization advisable. Special exercises and related measures for functional rehabilitation within the patient's tolerance are utilized along with blocks or steroids as a part of a well-rounded therapeutic program. In unresponsive patients suitable and fit for the procedure, sympathectomy remains as a last resort.

CONTROL OBSERVATIONS

Owing to the severity of the symptoms or the referral of patients by other departments or physicians for specific treatment, it was difficult to accumulate a series of cases under simple control measures to study the natural evolution of the shoulder-hand syndrome. Refusal of patients to accept one or both of the therapeutic procedures discussed and the unavailability of such therapy early in our studies of the shoulder-hand syndrome provided the opportunity to follow nine cases as controls on conservative management. Treatment consisted at various times of analgesics (salicylates, codeine, and barbiturates), electrotherapy, and exercises.

These patients were seen for six months to 13 years after presenting phase 1 or 2 of the disorder. Persons similarly treated in phase 3 were not thought suitable for comparison. Of these nine patients, one made a nearly complete recovery within four months. Most of the others were made more comfortable by the therapeutic program. Recovery of shoulder function appeared in all but one of the nine patients within 7 to 24 months. Resolution of hand swelling required three to eight months, but disabling alterations of the fingers with varying degrees of disability, of irreversible or apparently indefinite duration while under observation, were noted in seven of the nine patients.

As far as it is possible to conclude from this limited number of cases, these spontaneous developments in conservatively treated patients with the shoulder-hand syndrome revealed that sympathetic blocks or the administration of cortisone and corticotropin, in spite of failure in some cases, appear to be superior to nonspecific conservative measures. In each of the specifically treated groups the therapy resulted in more rapid control of the symptoms, quicker resolution of signs and disability, and less frequent and serious residual alterations of the affected parts. The most striking effect, and one probably appreciated by the patients, undoubtedly was the frequent relief or suppression of pain.

SUMMARY AND CONCLUSIONS

Of 126 persons with shoulder-hand syndrome seen by us to date, 91 were treated and followed up. Of the 91, 69 were subjected to blocks of the stellate ganglion, 13 received corticotropin (ACTH) and/or cortisone, and 9 were treated by simple conservative measures. Fourteen consecutive patients representative of the results from stellate ganglion block are compared with a series of 13 consecutive patients receiving corticotropin and/or cortisone. According to our observations, corticotropin or cortisone and stellate ganglion blocks constitute the most helpful nonsurgical therapeutic measures now available for the shoulder-hand syndrome.

The trends of responsiveness to corticotropin and cortisone in 13 patients with the shoulder-hand syndrome and to repeated blocks of the stellate ganglion in 14 patients are compared. Spectacular successes and unaccountable failures occurred with all methods. On the whole, sympathetic blocks gave somewhat better results. The responses to these two procedures were more rapid than and superior to those in the nine patients treated by simple conservative measures. Once a satisfactory result was obtained with stellate blocks, a period of maintenance therapy was not required, as with corticotropin or cortisone, to insure permanent benefit. Sympathetic block is contraindicated only by hypersensitivity to analgesic medication.

Cortisone and corticotropin therapy probably should be used only in patients unwilling to submit to sympathetic block or unresponsive to them, provided there are no contraindications to the use of hormones. Although a more satisfactory and more widely effective nonsurgical method of treatment of the shoulder-hand syndrome is desirable, our results so far suggest that sympathetic ganglion block is the treatment of choice, with cortisone and/or corticotropin as a second choice.

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Intermittent Claudication of the Hip.—A cramp-like pain in the calf which occurs during walking and is promptly relieved by rest is almost certain to be correctly attributed to some interference with the normal arterial circulation of the lower leg. Because of the frequent association between pain in the calf and occlusive arterial disease, the term "intermittent claudication" has become almost synonymous with this particular symptom; however, typical intermittent claudication may occur in any muscle or group of muscles if the arterial blood supply is insufficient to permit their normal active use. . . . Typical intermittent claudication involving the hip, thigh or low back area, without pain in the calf region, was observed by LeFevre and associates in 26 of 47 patients with occlusive arterial disease involving the abdominal aorta or iliac arteries. . . . Intermittent claudication of the hip is not a diagnosis in itself, but rather a symptom, arteriosclerosis obliterans being the most common cause of this symptom. . . . Intermittent claudication of the hip may be mistaken for various orthopedic and neurosurgical diseases. A careful history of the character and duration of the pain and a careful examination of the peripheral circulation will always differentiate true intermittent claudication of the hip from any other disorder producing low back pain, hip pain, or sciatica. Aortography is a valuable diagnostic aid.—F. A. LeFevre, M.D., G. S. Phalen, M.D., and V. G. deWolfe, M.D., Intermittent Claudication of the Hip, *Cleveland Clinic Quarterly*, July, 1953.

CONGENITAL SPINAL MENINGOCELE

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Congenital malformations of the spine resulting in grotesque protrusion of the intraspinal structures, with frequent associated paralysis of the bladder, rectum, and legs, are distressing and extremely serious lesions about which we have good reasons for acquiring more information. Scientific ignorance of such problems may lead to life-long blundering care of the patient from birth to death. The ever-lasting urinary and fecal incontinence, when present, can seldom be continually treated by a physician who has intimate knowledge of or experience with the neurophysiological abnormalities associated with the disorder because of its rarity. One of the most complete studies of this subject was made by Frazier [1] who made the pertinent comment that "spina bifida occurs approximately once in every thousand births, and of the infants thus afflicted, from 80 to 90% die during the first year, many even within a few days of birth, and of the small percentage remaining, the majority are mentally defective and physically crippled." His contribution should be read by every physician faced with the task of treating one of these little patients, because it clearly describes the fundamental anatomic defects that occur and because it presents an understanding of the basic physiological weaknesses caused by the imperfection.

This paper, based on an analysis of 68 case histories, is presented largely in reply to the question asked of me by a competent, widely experienced orthopedic surgeon. He asked, "Why don't you neurosurgeons keep the medical profession informed about the physiological disturbances in meningocele cases? It is only you who have the training and experience to clarify its complicated aspects and to outline rational therapy." The answer to the neurosurgeon's neglect of the problem is simple. Once the immediate problems of the removal of the meningocele and the treatment of the frequent hydrocephalus are accomplished they are only too glad to turn the paralyzed bladder and rectum over to the urologist and the deformed, crippled limbs to the orthopedic surgeon; they are at once relieved of the duty of personally caring for the unpleasant life-long residuals that are always present. I suspect that these latter specialists quickly refer the patients to the general practitioner.

GROSS APPEARANCE

The gross appearance of a spinal meningocele, with its covering varying in thickness from that of tissue paper to a hideous mass composed of thickened skin, subcutaneous fat, fascia, and snarled nerves, needs no detailed description. Associated lipomas, satellite cysts, telangiectatic angiomas, and overlying tufts of hair are common. Rupture of the thin covering is frequent with a resulting flow of spinal fluid through the opening. The lesion occurs most commonly in the lumbar spine (about 75%); the dorsal spine is the next most frequent site (15%). About 5% of all lesions are found in the sacrum and around 1% in the cervical spine. It is not unusual for two adjoining spinal segments to be involved in the malformation, and isolated meningeal cysts are found in the pelvis and mediastinum.

ASSOCIATED DISTURBANCES

The most striking disturbances associated with spinal meningocele are urinary and fecal incontinence, paralysis of certain muscle groups in the lower extremities, and sensory loss or impairment of all these structures.

Incontinence of urine, or uncontrolled urine, is the most distressing physical complication of the lesion; it obviously is caused by imperfect development of the cauda equina, or spinal cord, at the location of the deformity. Bladder paralysis occurred in 60% of this entire group of 68 patients, but it existed in 75% of those in whom the lesion was below the 10th dorsal segment. Only occasionally was there urinary incontinence when the lesion was above this level.

The evaluation of bladder function seems to be difficult for those who are not familiar with the paralysis of the bladder accompanying meningocele and other paraplegic states. It is quite customary for an infant with a meningocele to be referred to a neurosurgeon with the statement, "the bladder and bowel functions are normal," when, in fact, it has a complete loss of micturating and defecating control. How is it possible to clearly determine, by methods available to any physician, the actual state of these organs? As a matter of fact it is rather simple. If there is a perpetually wet diaper—the mother can determine this—the bladder is paralyzed; even in newborn infants, the bladder is completely and periodically emptied and there are long intervals during which the diaper is dry. Again, by observing the penis, urethrovaginal orifice, or the entire perineum, there will be noted a constant dribbling of urine that will increase with crying and straining and on abdominal pressure. A normal infant voids periodically as well as in spurts, and any clinician who has ever examined a baby boy without a diaper has undoubtedly observed this simple fact.

Fecal incontinence is not so disturbing or inconvenient, and it is not so likely to determine the life span as is bladder incontinence since the rectum can usually be kept clean of accumulated feces by periodic rectal irrigation. It can be very annoying, however, when the feces is liquid or semisolid, particularly in those patients having a low spinal lesion with complete loss of sphincter tone. Those lesions at a higher spinal level may allow fair spastic rectal sphincter action and consequently cause little bowel inconvenience. Actual rectal dysfunction occurs in precisely the same percentage as bladder incontinence. Perineal paralysis with loss of anal control is not difficult to ascertain. Simple inspection will reveal the flattened perianal region without clear definition of the radial mucous membrane markings. The anus is often open, and when stimulated at its margin with a sharp

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Read before the Section on Nervous and Mental Diseases at the 102nd Annual Meeting of the American Medical Association, New York, June 2, 1953.

[1] Frazier, C. H.: Surgery of the Spine and Spinal Cord, New York, D. Appleton and Company, 1918, pp. 264-324.

pin prick the normal closing contraction is absent. Feces will be found on the diaper and in the anal canal; in fact, fecal dribbling occurs for the same reason and in the same manner as bladder dribbling. If there is any doubt, exploration with the fingertip will instantly detect the lack of sphincter tone and pain associated with the examination.

Paralysis of the arm muscles is exceedingly uncommon since it connotates a complete transverse cervical lesion that is incompatible with fetal maturity. Paralysis of the lower trunk, perineal, and leg muscles is common. The higher the meningocele on the lumbar spine the higher the level of muscular and sensory paralysis. When the lesion is in the lower dorsal segments, there may be complete paralysis of the legs, bladder, and rectum. The common muscular deficit, however, involves the perineum and the posterior aspects of the thighs and calves giving the infant a clubbed foot deformity because of paralysis. There may be power to flex the legs and the hip joint because the muscles that perform this movement have spinal nerves that originate at a higher level on the cord than the meningocele. The power to extend the foot at the ankle, knee, or hip is very weak or lost completely. Rarely a defect in development of the lumbar spine that is invisible externally causes simple unilateral clubbed foot. In one instance, the dissection of the lumbar spine of a clubbed foot, stillborn infant disclosed a single caudal root defectively arranged in an otherwise hidden meningocele type of malformation.

Sensory deficits occur concomitantly with motor paralysis and extend over the same precise neural segments. They can be mapped accurately by painstaking stimulation with a sharp pin. On passing the anesthetized area, there is pain, as indicated by movement and crying.

Various other physical deformities associated with meningocele are frequent and many times of equal concern to that of the spinal defect. Isolated meningoceles may be present (in the brain, mediastinum, and pelvis), and undescended testicles, imperforate anus, pyloric stenosis, cleft palate and harelip, dislocated hips, heart malformation, and any other possible congenital deformity may occur in the same patient with spinal meningocele. Hydrocephalus in mild and advanced forms occurred with spinal meningocele in 40% of this series. After operating on the meningocele, there were an additional 10% of cases in which hydrocephalus developed as a complication of the meningocele removal.

ANATOMY

The pathological anatomy of the lesion has been extensively studied, and its bearing on the functional disturbances are in direct relation to the lack of development of the spinal cord, or cauda equina. The lack of continuity between the brain and the peripheral organs and body structures through the spinal cord mechanism wholly and completely determines the degree of functional loss. A simple meningocele containing no neural element is comparatively rare. In the lesions considered here, 25% were of the uncomplicated saccular type, without evidence of anatomic or physiological involvement of the cord or nerves. These were oftenest found in the upper half of the dorsal spine or on the cervical spine. Massive lesions involving the cervical cord, comparable to those seen in the lumbar spine, are hardly compatible with life; therefore, the fetus seldom matures to survive birth. Those instances of massive anatomic involvement of the cord and cauda without major disturbances in innervation occurred in only about 10% of the cases. In this group are those lesions in which one or two minor roots of the cauda were involved or, as occurred in three instances, in which a nubbin of spinal cord protruded from it to affix its extremity to the dome of the meningocele. A careful dissection of the nerve structures in these cases may result in a complete cure without neurological complications.

A word should be said about spina bifida to clear the general mistaken concept of this unimportant part of the meningeal deformity. This term as applied to a spinal segment means only that there has been a failure in fusion across the posterior neural arch that has resulted in the appearance of two incompletely developed tiny (bifid) spinous processes side by side. This is a common finding at the first sacral arch, and it is not uncommon at the first cervical arch; it implies no abnormality of the cord or cauda equina beneath these defects. Spina bifida is of importance diagnostically only when found over several spinal segments and associated with obvious neurological defects. Meningoceles must have associated bifid spinous processes otherwise it would be impossible for the intraspinal neural element to reach the skin surface.

TREATMENT OF MENINGOCELE

Treatment of a meningocele requires restraint on the part of the surgeon and psychological conditioning of the parents for acceptance of the cruel blow that fate has dealt them. Since the grotesque mass is the most obvious problem to the parents, their reaction is to get the unsightly, shameful "thing" off now. Little do they realize its associated crippling implications. To a not too thoughtful surgeon the problem requires the same simple solution. We still see instances in which immediate removal is effected before mature consideration is given to either the psychological preparation of the relatives or plans for the future nursing care of the afflicted infant. It is my opinion that considered thought should be given to both of these aspects and, for that reason, it is well to delay surgery in those patients with paralysis of any kind until one is sure that the entire family, including the mothers-in-law, understand as clearly as possible that removal of the meningocele will have no effect on curing the infant of its bladder and rectal incontinence, paralysis of the legs, and mental abnormality. This the surgeon can be sure will take weeks or even many months. By taking a course other than this, the surgeon allows himself to be held responsible for the permanently crippled state of the patient. It appears to be a weakness of human nature for parents to blame chronic deformities on the physician who has performed an operation on the child, unless they have been skillfully prepared to assume the responsibility themselves before the operation. Nothing is gained by early operation because the small meningoceles without neurological deficits will not be harmed by waiting; the large protruding tight ones have associated hydrocephalus that should be treated prior to meningocele repair. To remove the meningocele early only aggravates the hydrocephalus. The large thin-walled protrusions, or those that have already ruptured and are draining, usually are associated with massive malformation of the neural elements, hydrocephalus, and mental impairment. A simple dressing with a "doughnut" type of protection around the mass is sufficient to prevent rupture. If the lesion has already ruptured, then it should be covered with an ointment dressing and treated as any other open wound. If one wishes to prevent meningitis, antibiotics should be given. Whether the surgeon is morally obligated to close open draining meningoceles to prevent infection is a philosophical question that one cannot answer dogmatically. Generally speaking, it is a physician's Hippocratic duty to preserve life and prevent suffering, but how can one be sure that he has selected the right course of action when the immediate saving of life may mean life-long suffering. In certain instances, the preservation of life is a blessing from heaven to no one, and so it often seems in the case of a mentally defective hydrocephalic or paraplegic infant "cured" by a skillfully performed meningocele operation. The surgeon is always obligated to make the decision of when to operate and how the procedure is to be executed. Above all else he must be certain that he is not being hired as the "lord high executioner."

Certain general rules may be used to guide the surgeon in making the decision of when to operate. It is better to err on the side of delay than to operate too soon. Hydrocephalus, if absent, is less likely to be a complication of late meningocele removal. It has also been observed that hydrocephalus, if present, tends to subside spontaneously as an infant approaches one year of age and that there is little likelihood of it developing after the infant is 18 months old; therefore, if there appears to be any tendency to hydrocephalus or if the meningocele is tight, it is better to wait until these states have subsided. This means that operation should not be performed before the infant is one year old. Small soft saccular meningoceles, with no evidence of hydrocephalus but with minor neurological involvement, may be operated on when the patient is five or six months of age. The cautious surgeon will even extend this age limit. Meningoceles that are soft and have no associated abnormal neurological finding may be operated on when the infant is sturdy enough to withstand the procedure, but, again, it is better to wait until the third or fourth month.

OPERATIVE PROCEDURE

The actual technical details of a meningocele operation are of no great concern. Various methods of turning in redundant underlying layers of the sac have been described but probably have no advantage over procedures that do not emphasize such unnecessary details. If hydrocephalus appears after removing a meningocele, it is unlikely that any technical anatomic repair that has been devised could have deterred its development. There is sufficient evidence to substantiate the theory that the meningocele absorbs some cerebrospinal fluid, but it is technically impossible to retain layers of the sac and at the same time remove it, leaving a fluid-tight wound. Occasionally it will be possible, and probably advantageous, to cover the spinal defect with lumbar muscle fascia before suturing the skin. Attention to the fundamentals of excision of the mass, preservation of cord structures, release and reapposition of separate nerve ends, and a water-tight closure with fine sutures are, of course, essential. Bungling, careless surgery can irreparably ruin important nerve roots or the spinal cord in cases in which they are attached to the dome of the meningocele.

Care of the meningocele patient after all corrective operative measures are completed is extremely important and must be carefully planned since it must extend throughout life. The life expectancy element is basic in long-range planning, and yet it can be appreciated that, in dealing with so many grades of similar malformations, the prognosis automatically becomes as variable as the seriousness of each deformity. Obviously a simple meningocele without neurological deficits and other gross malformation should carry no operative mortality or death from late complications. Conversely most of those patients with large meningoceles, paralysis of the bladder and rectum, and possibly hydrocephalus or other massive deformities will die within the first year after birth. In between these two groups, there is a third group of patients with complete paralysis of the rectum and bladder, partial leg paralysis, and possibly some hydrocephalus and mental impairment in whom the prognosis is dependent entirely on bladder function and the degree and frequency of infection of the urinary system. It is this intermediate group for whom it it so important to plan carefully over many years. In reviewing the 68 patients of this group, which included all types of spinal meningoceles and other deformities, it was found that 35% were dead after a six month period. I am confident that this figure is entirely unreliable, because it does not include those numerous meningocele patients that die during the first two weeks after delivery for whom the neurosurgeon is never called in consultation and of whom there is no record. After the age of six months, it was impossible, without great effort, to locate enough patients for accurate statistical purposes.

Institutional care must be the only answer to the intellectually impaired patient who is unreceptive to mental discipline. The sooner those of this group are separated from their families the better. To continue the home care of an obvious mental defective is unfair to the entire household, and it does the patient no good. Those with leg paralyses must be under the care of an orthopedic surgeon for many years. Supportive braces can do wonders in enabling these children to ambulate, and the outlook for successful locomotion is particularly good because the back, abdominal, arm, and shoulder muscles are usually in excellent condition. There is no reason to start corrective leg maneuvers before the extent of the lower limb paralysis is apparent. Painless pressure ulcerations of the feet, buttocks, sacrum, and penis are annoying problems demanding constant preventive measures and treatment.

Urinary tract paralysis is the greatest single problem in the long-range care of the meningocele patient. It can be said that urinary retention is the only critical aspect of the malformation. Without it these patients should have the same survival expectancy as any other newborn infant. Care of the impaired bladder, then, becomes the all important concern as it does in any spinal paralysis state. In a physiological way, however, the urinary tract paralysis is more serious in the meningocele patient since most of the lesions involve the conus or cauda. At these points the parasympathetics are paralyzed; this prevents reflex contraction of the smooth muscle of the bladder, resulting in flaccid bladder and ureteral walls. This encourages stagnation, calculus formation, infection, and ultimately hydronephrosis and pyonephrosis far more serious than that which occurs in cord lesions at a higher level. It appears likely that any patient with a complete conus or caudal lesion that totally paralyses the autonomic nervous system to the bladder and ureters will be dead in less than 10 years no matter how excellent the urinary system care may be. Conversely, any patient with a complete lower cervical cord lesion should live indefinitely if the bladder outlet is of sufficient size to permit easy and constant drainage of the urinary content. There are, however, no reliable statistical figures to warrant such a dogmatic statement, particularly since we know so little about the segmental autonomic innervation of the kidney pelvis and ureter. The erect posture, with its increased lower intra-abdominal pressure, will encourage the bladder, paralyzed by a low spinal cord lesion, to empty more completely. During any prolonged period of recumbent bed rest, the bladder, ureters, and kidneys act as one large infected cesspool to form stones and gather infection.

From a practical standpoint, it is imperative that the bladder outlet be kept large, that its interior be examined by a urologist at intervals no longer than six months, and that antibiotics be given at any sign of infection as indicated by fever, chills, and a decrease in well-being. In the boys, the dribbling urine must be collected by a rubber bag into which the penis protrudes. In the girls, this problem is more difficult and can be met only by a retention catheter or diaper. The poor prognosis in cases in which there is total bladder paralysis from a meningocele can be appreciated, when I point out that I could not locate a single patient that had survived the first 10 years of life. In fact, I do not know of even one patient with a complete transverse myelitis from a meningocele who has reached adolescence.

SUMMARY AND CONCLUSIONS

A study of 68 case histories of patients with all types of spinal meningoceles shows that by far the greatest number of lesions occurred at the lumbar level (75%). Involvement of the cord was uncommon in the upper dorsal and cervical regions. Hydrocephalus was a complication in 40% of the cases. There was bladder, rectal, and leg paralysis in 60% of the entire group and in 75% of those with cauda equina lesions. Death occurred before six months in 35%, and no meningocele patient with marked bladder dysfunction has reached adulthood.

Congenital spinal meningocele with bladder paralysis is a serious disorder. Only a few persons with this disorder can ultimately survive its complications. A conservative attitude is desirable in the treatment of the lesion, since surgical reparative procedures seldom alter the prognosis. Careful psychological preparation of the parents, good general medical management, and long-range, well-planned nursing care are essential to the patient's comfort and health.

10th and Sanson st. (7).

TREATMENT OF TUBERCULOSIS FIFTY YEARS AGO

CHAIRMAN'S ADDRESS

Joseph C. Placak Sr., M.D., Cleveland

We know a great deal more about tuberculosis today than we knew 20 years ago, and we shall know still more tomorrow. Even as we discard older authorities, however, it behooves us to acknowledge our debt to them. As has been said, "We see farther in our time only because we stand upon the backs of giants."

Nevertheless, the great studies of yesterday will be superseded, are being superseded, even as they are being used. They will continue to fade gradually from footnotes and from bibliographies as newer, more accurate knowledge comes into its own, and finally they will be of merely "historical interest," which is a polite way of saying that they will have become obsolete. This is of course right and necessary. To say that few studies of 50 years ago are of any real scientific interest today is merely to say that medicine has made progress. And yet a review of the activities of that far-distant time is not without interest, and I propose to reminisce about that far-distant day when the study of tuberculosis and I were young.

The period between 1900 and 1910 is of interest because, although medicine has changed a great deal since then, its practitioners and servants have changed very little. A really scientific interest in medicine was extremely rare in the United States before 1900, except for a few isolated and daring pioneers. After that date the rise of scientific medicine was extremely rapid. Much of this interest was naturally directed toward the battle with tuberculosis. In 1903 Cleveland got its first institution solely devoted to the care of tuberculosis patients, a remodeled hospital left over from the smallpox epidemic of the previous year. Three years later the city council was persuaded to buy a large tract of land for the construction of the first sanatorium designed for the treatment of tuberculosis. In 1902 the City of New York passed the first ordinance in this country requiring the registration of known cases of the disease. These two developments, which were direct predecessors of the later campaign for isolation, were probably as important as anything that happened in the period, but we did not think so then.

Read before the Section on Diseases of the Chest at the 102nd Annual Meeting of the American Medical Association, New York, June 2, 1953.

Prior to 1900 tuberculosis had been in truth the "white plague," and its diagnosis was not far from being a death sentence. The standard treatment for the disease was an air-tight room, with the patient wrapped up in a featherbed and stretched out behind a red-hot stove. It was a question at times whether he died of tuberculosis or parboiling. Administration of beechwood creosote and whiskey three or four times a day was the commonest medication, but it was beginning to be viewed with disfavor by some, probably on account of the rumors one heard of patients being occasionally overtaken by spontaneous combustion. It is small wonder that the medical profession had made little headway against the multitude of old wives' remedies that one encountered. These remedies were generally based on the premise that the bacilli had a sense of smell; they included sleeping on manure piles, eating dog fat, a regular diet of garlic, and sleeping in a room with one or more savory goats. Physicians with their time-honored hotbox treatment were naturally scornful of this folk-lore, but it is likely that more than one old granny had a better mortality rate than the medical profession.

ADVENT OF FRESH AIR THERAPY

After 1900 hot stoves and featherbeds became increasingly antiquated, and fresh air became the rage. In retrospect this new approach seems as irrational as the older one. The remodeling of our former smallpox hospital consisted largely of the addition of sleeping porches, where patients spent a good deal of their time the year around. The stiff breezes that were the outstanding characteristic of this treatment perhaps protected the personnel of the establishment from tuberculosis to some degree, but pneumonia was a real hazard. Our first genuine, built-to-order sanatorium was constructed 12 miles from the city, and the motive behind the project was not isolation but country air. In wet weather two teams of horses were sometimes required to drag the wagon with the new patient through the axle-deep mud. But since our first principle of treatment was fresh air and then more fresh air, the hardships were cheerfully borne. The sanatorium itself, like most of those built at that time, was basically four lean-tos in the form of a square, with the center covered and heated as a concession to man's frailties; in this center were the sitting room, dressing rooms, and lockers. This was perhaps the only time in history when rubber boots were a part of the regulation equipment of nurses. Rounds were made at night with barn lanterns, and it was frequently necessary to literally dig the patient out of a snowbank to take his temperature.

All this seems remarkably naïve medicine today, and yet this fresh air craze was a most important development in the history of the fight against tuberculosis. The thesis that wintry blasts could adversely effect a tubercle bacillus was erroneous, but these early fresh-air resorts accustomed the public and the medical profession to the idea of sanatoriums for the treatment of tuberculosis. The gain was immense, even if we did not understand it at the time. Even more important, perhaps, was the great change in attitude that this innovation represented. Patients had been wrapped in featherbeds and curled around hot stoves for generations. There is no reason to suppose that this kind of treatment produced more cures in 1750 than it did just prior to 1900, but in 1900 doctors were beginning to be a little dissatisfied with a treatment that had such miserable results, time-honored or no. They were no longer willing to prescribe the traditional remedy and leave the outcome to providence. There was the growing feeling that tuberculosis was a challenge to medicine, as well as a disaster for the victim. The dissatisfaction with anything less than perfection, which is responsible for our progress in the last 50 years, began at that time. Our knowledge and techniques were defective, but our attitudes were those upon which medical progress will continue to depend. We found yesterday's mortality rates distasteful.

USE OF PHYSICAL ACTIVITY

The interest and enthusiasm that new ideas could command in that early decade were remarkable, perhaps the greater because a little naïve. The work of Paterson and Inman at the Fimley Sanatorium in England was discussed everywhere and widely imitated. In the view of these notable pioneers, an important aspect of treatment was the prevention of physical decay due to prolonged inactivity. Therefore, after a period of rest, the patient was put on a regimen of carefully regulated work. He would start with a child's shovel moving dirt for a short time each day. The length of time and the size of the shovel were increased simultaneously, until the patient was actually working off his keep with a full-sized implement. Wheelbarrows and other equipment were also carefully graded as to size. The collection of tools that this institution boasted was a nine-days wonder. In our own sanatorium the theory was put into effect in terms of plots of ground which the patients tilled under supervision, and in terms of athletics. We had a baseball team one year that was undefeated. Even more remarkable, not one patient died on the playing field. It would seem that Divine Providence has a special care for young and slightly inept scientists.

If there was one single great defect in our efforts in those days, it was our failure to realize the complexity and difficulty of scientific proof where the guinea pigs were necessarily human beings. We were unduly anxious to accept statistics that were favorable to a cherished technique, without a critical survey of other factors that might be entering into our results. A good many of us were willing to swear that fresh country air 24 hours a day, unsullied by nasty old smoke, was the most remarkable cure for tuberculosis known to man. This conviction was based on the evidence of our own eyes; the improvement in patients that was noted after only a few weeks or few months of this treatment was patently spectacular. I know of no one at that time who pointed out that the rest and nourishment that was a kind of side-effect of the country air might really be responsible for the results. It should have been obvious, particularly since a good many of our patients in those early days were abandoned, derelict alcoholics in whom malnutrition was probably as important to symptoms as the bacilli.

We had no idea at that time of the intangibles that so plague medicine. The very optimism with which we were beginning to confront the disease had an incalculable effect. When we opened our first sanatorium, all of our patients were far-advanced—so much so that no therapy was of any avail. Because of the notorious fatality of tuberculosis, physicians delayed diagnosis until the patient was at death's door, and most laymen were absolutely terrified of entering those portals from which so few emerged ambulatory. We had a very difficult time convincing the layman that the black bottle used to speed hopeless cases was a figment of his fright. As a consequence, the population of that first institution was beyond the help of anyone or any remedy. As the medical profession gained confidence during that 10 year period, however, the layman gained confidence, too. There is no doubt that the decreasing mortality rate of which we were so proud was due in no small measure to the fact that we were beginning to get cases before the patient was absolutely moribund.

FACTORS IN DECREASING MORTALITY

All during this period the tendency to earlier diagnosis operated, and no one really took it into account. Also rest and nutrition came to be a natural adjunct of every remedy. The result was a steadily decreasing mortality rate, which we attributed to everything under the sun but the responsible factors. These factors distorted our statistics and played hob with our attempt to understand, while they made real cures possible. As an example, we were not faddists in our interest in the work of Paterson and Inman; the results they got at that sanatorium were really excellent for that time. We did not attempt to evaluate the whole situation; we looked in the direction that these great pioneers were themselves looking, at the physical exercise. We presumed that this was the really significant factor in their success, without having any real evidence for this presumption. The same thing might be said of the frequent recommendation that patients go West and ride horses. I have no doubt that the escape from emotional problems, the improved nutrition, and the rest that usually accompanied this remedy did actually save a great many lives. But we attributed such success as we had to the jiggling the patient's lungs received as he dashed across the countryside. The great lesson in these experiences is this: A tuberculosis treatment can only be proved by the most exhausting sort of clinical trials. About half of the science attached to the art of medicine is the science of statistics, of analysis. We have abandoned the notion that periodic jiggling is an efficacious remedy for tuberculosis, but it would be optimistic to assume that we have completely abandoned that attitude of mind that lay behind our early faith in jiggling.

We need to cultivate suspicion. At one time physicians had a great deal of confidence in the medicinal properties of whiskey. I truly believe that in some instances, when it was administered by a pretty nurse with lots of confidence, it helped. As a matter of fact, I have seen men it helped. But we were perhaps unduly slow to take into account the confidence and the pretty nurse. Instead, we nourished the vague conviction that you could sometimes pickle the bug without pickling the man first.

Our efforts in those days had another marked characteristic; we were not primarily interested in long-term propositions. We clung desperately to the conviction that all disease, including tuberculosis, must sooner or later succumb to some simple remedy or some simple preventative measure. We expected to beat the disease all at once. We had, as an example, the utmost faith in the applicability of Pasteur's theories to all contagious diseases, and we were convinced that sooner or later the white plague would follow smallpox down the road of contagious diseases that no civilized man need suffer from. At one time, three-fourths of the conversation at meetings such as this one was concerned with the relative merits of various kinds of tuberculin: Koch's, Deny's, Gabrilovitch and Von Ruck's and Formanek's all had their defenders and their impressive case studies.

Since even today we do not quite know why tuberculosis should be so extremely difficult to control by vaccination, this early enthusiasm is understandable. Our interest in quick and spectacular results did not confine itself to such relatively reasonable presuppositions, however. All sorts of spectacular claims had their day. In 1909, Friedman's sensational cure for tuberculosis occasioned the greatest interest and enthusiasm. It had to do, as I recall, with some sort of serum from infected turtles. The details escape me; perhaps they made turtle soup out of the animals. In any case, it made headlines throughout the world, and Friedman was invited to this country to demonstrate his technique. The reactions to an injection of the stuff were understandably severe, and to the jaundiced and skeptical eyes which we had developed by 1909 positive results were not apparent. So Friedman's tuberculosis serum faded from public notice. When I was in Germany with the Army of Occupation in 1919, I inquired of Friedman and learned that his notorious turtles were infected by a tuberculous housemaid who had made a practice of expectorating into their pool.

As a consequence of this interest in quick results, the truly significant work that was going on in this period was considerably neglected. Use of x-rays was introduced to Cleveland medical circles in the early part of this period; Dr. Iddings was our first roentgenologist. It did not really create much interest. We did not see the possibilities of the technique because we were not primarily interested in early diagnosis as a procedure in tuberculosis control. To some degree, of course, this neglect was understandable. One of roentgenography's early trials in Cleveland involved an aged gentleman who had a severe choking spell. Since the x-ray plate showed a density in the mediastinum, and since an examination revealed his upper plate to be missing, a surgeon was called and the patient was operated on immediately. Unfortunately, the patient died and a housemaid found the missing bridgework under the patient's bed. This was not the kind of experience to create a great deal of trust in roentgenological findings.

Yet if we had been sufficiently concerned with the hard, the slow, the painful, but the sure approach to the problem of tuberculosis, we would certainly have seen the great possibilities inherent in use of x-rays. We were too concerned with a possible easy way, and early detection and isolation, the two techniques that are without doubt chiefly responsible for the low mortality rates that we obtain today developed as great therapeutic principles almost without our noticing.

INTERNATIONAL CONGRESS ON TUBERCULOSIS OF 1908

I am fortunate enough to have the proceedings of the International Congress on Tuberculosis of 1908 in my possession. The significance of this meeting was tremendous. Almost all of the great pioneers in the study of tuberculosis were there, and in comparison with the modest aims of this assembly the program of that conference was all-inclusive. There were 330 papers in all, which included 45 papers that had to do with animal tuberculosis alone. There were discussions on tuberculosis in infancy, opsonic index, serum diagnosis, surgery, and conjunctival and cutaneous reactions, construction of sanatoriums, the cost of tuberculosis, bacteriology, epidemiology, pathology, diagnosis, social aspects and treatment. At the conference there was one paper on fluoroscopy and two on use of x-rays.

One author, quoting from Dr. John B. Murphy's surgical oration made previously to the congress on the status of lung surgery of that time, stated that abscess of the lung, actinomycosis, bronchiectasis, gunshot wounds, and foreign bodies—thanks to a goodly number of collected results—were conditions warranting surgical treatment. Up to that time Murphy regarded surgery as having been of comparatively little benefit in tuberculosis. Cases of drained cavities were then, as now, in the literature, but Murphy was doubtless correct in stating that this procedure was attended with uncertainty. The opening of one cavity often meant that one or more neighboring ones were left unoperated. A review of the results of partial excision of pulmonary tuberculous foci and a partial excision of the lung was most discouraging. Murphy in the same oration advocated the injection of nitrogen into the pleural cavity to partially collapse and thus immobilize the diseased lung.

Another author quoting from the paper of Dr. Samuel Robinson of Boston, states that "the literature of the past ten years contributes little encouragement as to the results of excision. The cases of Tuffier, Lawson, and Doyen will stand practically alone as successful excision of tuberculous lung lobes. As a result of considerable animal experimentation, I have come to regard the removal of one or two lobes of a dog or rabbit as an operation often done with absolute surety of success. Mayer, Green, and Janeway would, I think, support me in this conviction, although our experimental successes in the past few years tend to undo our hopefulness for lung excision in the future. It is difficult to abandon the possibilities of such operations on tuberculous foci as willingly as we abandoned them 10 years ago. It must be conceded however that pneumonectomy in the human lung in the presence of adhesions is quite a different problem from the same operation in the normal animal. Professors Brauer and Sauerbruch of Marburg, men of considerable clinical and experimental experience, have recently courteously answered my personal inquiries on this subject. They are of the opinion that the excision method of approaching tuberculosis offers little encouragement for the future." Within recent years this old conception of lung surgery has been disproved.

From the standpoint of history, almost certainly the most significant paper read at the Congress was one by Dr. Mary Latham on pneumothorax. The lack of interest that greeted her presentation was almost complete; most of the audience left the auditorium long before she was finished.

These things are historical curiosities. But they are something more than that also. We today may disclaim any kinship with the top-hatted figure of 1850 who performed brutal operations in a long black tail-coat, but our kinship with the medical men of 1900 is unmistakable. We know more today, and perhaps we have learned painfully, a few of the hazards that attend any attempt to be scientific about man's ills. Perhaps 50 years of alternate hope and despair have been enough to produce a truly scientific skepticism so far as tuberculosis is concerned. But in other specialties the same impulse to short-range vision, the same impulse to accept consoling statistics at face-value, are certainly in evidence from time to time. The history of our fight against tuberculosis in these 50 years is heartening, but it is full of mistakes that could have been avoided and that it is foolish to repeat in our advance against other diseases such as cancer. The certain remedy, the vaccination, the easy and relatively inexpensive attack on disease are important, but equally important are those slow and expensive methods of diagnosis and prevention and treatment. These latter are the methods that have paid off so richly so far as tuberculosis is concerned.

Above all, this decade between 1900 and 1910 must be cherished for the vision that it has left us. If I might single out the most important event of that period, I would suggest that it was the International Congress of 1908. Outside of Dr. Latham's report, which was neglected, I do not recall any spectacular new findings reported there. But the spirit that this congress exemplified was the basis for almost every achievement that followed. In attendance there were the world's medical experts, united against a disease. Even more, these experts were backed by their respective nations. Frank Billings was president and President Theodore Roosevelt was vice-president of the congress, as was Grover Cleveland, and the President was host at a reception at the White House for the delegates. That conference represented mankind united against mankind's enemy if ever a conference did. And the contribution that such unity made to the fight against tuberculosis was indispensable. Without the growing trust of the layman, without the ceaseless interchange of findings and opinions across national boundaries, it is probable that we would soon have abandoned our belief in fresh air for the old hot-box.

This achievement in union we were perfectly aware of; President Roosevelt, in his letter to the convention, said: "The International Congress of Tuberculosis is in the interest of universal peace. In joining in such a warfare against a common foe, the peoples of the world are brought closer together and made to realize the brotherhood of man; for a united interest against a common foe fosters universal friendship. Our country, which is honored this year, as the host of other nations in this great gathering of leaders and experts, . . . should manifest its appreciation by making this Congress worthy of the cause of our guests and of ourselves. We should endeavour to make it the greatest and most fruitful Congress which has yet been held. . . ." These times are of great difficulty; new violence and new hatreds everywhere threaten the vision of unity that President Roosevelt enunciated for us in 1908. But we dare not forget that vision, no matter what the difficulty. Medicine itself depends on our faith.

2228 Woodman Dr.

CLINICAL NOTES

RAPID SIMPLE METHOD FOR DETERMINATION OF SERUM POTASSIUM

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and
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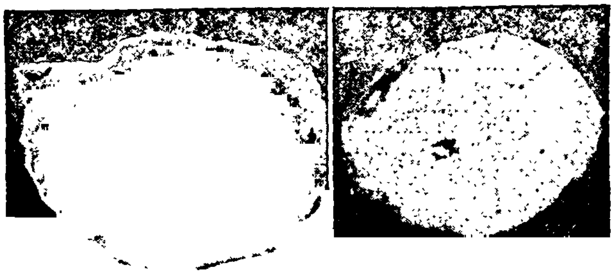
The time, special techniques, equipment, and expense required for the analysis of serum potassium concentration by the flame photometric or other current chemical methods have prevented the wider and more frequent use of serum potassium measurements in the diagnosis and treatment of metabolic disturbances. The simple, rapid, turbidometric method described, which is readily applicable for clinical use, depends on the formation of a potassium sodium cobaltinitrite precipitate.

MATERIALS

The following materials are needed: (*a*) two Sahli hemoglobin pipets; (*b*) two standard microscopic culture slides; (*c*) one rubber-tipped glass stirring rod, with the rubber tip measuring 2½ mm. thick, 7 mm. wide at the base, and 2 mm. wide at the tip; (*d*) one portable clinical centrifuge; (*e*) one 6 by 6 in. (15 by 15 cm.) sheet of overexposed x-ray film or black piece of paper; (*f*) one standard potassium solution containing potassium chloride, 3 mm. per liter (equals 0.224 gm. per liter), and sodium chloride, 140 mm. per liter (equals 8.12 gm. per liter), and one standard potassium solution containing potassium chloride, 5 mm. per liter (equals 0.373 gm. per liter), and sodium chloride, 140 mm. per liter (equals 8.12 gm. per liter); and (*g*) 15% sodium cobaltinitrite ($Na_3Co[NO_2]_6$), (Bakers), chemically pure.

METHOD

Unhemolyzed blood is placed in a chemically clean centrifuge tube and centrifuged for 2 to 10 minutes to produce cell-free serum or plasma. Two samples are drawn into an ordinary hemoglobin pipet to the 0.02 cc. mark and transferred to the two depressions of one of the slides; 0.02 cc. aliquots of the 3 and 5 mm. per liter standard potassium solutions are placed in the depressions of the second slide. The same pipet may be used for all four deliveries. Then 0.01 cc. of the sodium cobaltinitrite reagent are added with a suitably marked hemoglobin pipet to each of the specimens in the following order: first, to an unknown, then to the 3 and 5 mm. standard solutions, and finally to the duplicate unknown. Time is eliminated as a factor in the speed of occurrence of the precipitate in the unknowns as compared to the standard solutions when the cobaltinitrite reagent is added in this order. Each sample is then thoroughly mixed for five seconds with the rubber-tipped stirring rod, with a rapid circular motion, the rod being wiped dry between stirrings. Rapid complete mixing of the solutions is essential to insure an even distribution of the precipitate and requires practice. The test slide is then placed on a glossy black film, and the intensity of the precipitate formed by the standard solutions is compared with the unknowns. The precipitate is best seen when light is directed across the slide. The 5 mm. per liter standard potassium solution develops a diffuse, whitish yellow, cloudy precipitate within 10 seconds, but the 3 mm. per liter standard remains clear for about 20 seconds, and then slowly develops a faint white precipitate around the periphery (see figure). The time of occurrence and degree of potassium precipitation depends on temperature [1]; at low temperatures the potassium sodium cobaltinitrite precipitate occurs sooner and is more pronounced than it is at higher temperatures. If the temperature is above 80 F (27 C) and a clear distinction between the 3 and 5 mm. solutions cannot be made, cooling the unknown and standards will render the precipitate more readily visible. The temperature of the standards and the unknowns must be the same. The reading can often be completed within 30 seconds and must be made within about 5 minutes. The unknowns are classified as follows: 1, if they contain less precipitate than the 3 mm. per liter potassium standard; 2, if they contain about the same amount of precipitate as the 3 mm. per liter standard; 3, if they contain an amount of precipitate intermediate between the 3 and 5 mm. per liter potassium standards; 4, if they contain about the same amount of precipitate as the 5 mm. per liter potassium standard; and 5, if they contain a greater amount of precipitate than the 5 mm. per liter potassium standard.



Comparison of precipitates formed with 3 mm. per liter potassium standard solution (left) and 5 mm. per liter standard solution (right) when the sodium cobaltinitrite reagent is added.

When unknowns contain more than 5 mm. of potassium per liter, the potassium concentration can be approximated by diluting the unknown with an equal part of water or isotonic sodium chloride solution and using 0.02 cc. of the diluted specimen for the test. A

From the Laboratory of Kidney and Electrolyte Metabolism, National Heart Institute, National Institutes of Health, Bethesda, Md., and the Children's Medical Service, Massachusetts General Hospital, and Department of Pediatrics, Harvard Medical School, Boston.

[1] Burgess, L. L., and Kamm, O.: A Study of Cobaltinitrites and Their Application to Analytical Chemistry, J. Am. Chem. Soc. 34: 652, 1912.

sample containing 10 mm. per liter of potassium, so diluted, will give a precipitate equal to the 5 mm. standard, and one containing 6 mm. per liter of potassium will give a precipitate equal to the 3 mm. per liter standard.

PRECAUTIONS

The following precautions should be observed: 1. The test slide should be kept scrupulously clean and free of abrasions so that the fine potassium-sodium cobaltinitrite precipitate is evenly distributed and can be clearly identified. 2. It is inadvisable to read the unknown if either it or the standards contain a localized precipitation of the cobaltinitrite salt. 3. Both standard potassium solutions should be run each time a test is done; if a distinct difference is not present, either a fresh lot of the cobaltinitrite reagent should be made, or the standards checked. We have kept a 15% solution of sodium cobaltinitrite in the ice box for six months and found it to be satisfactory. 4. Cigarette ash may interfere with the accuracy of the test. There are about 2.2 mcg. of potassium in 0.02 cc. of the 3 mm. standard solution; thus, even a trace of high potassium containing ash may interfere with the reading. 5. Contamination of serum with red or white cells will give a falsely high value. 6. Grossly lipemic serum cannot be used unless it is cleared. Ethyl ether, chemically pure, 4 parts, and serum, 1 part, are shaken vigorously in a test tube for one minute and then centrifuged. The supernatant ether and fatty plasma layer are removed and the remaining plasma is used for the potassium determination.[2]

Comparison of Potassium Concentrations Obtained by Photometric and Turbidometric Methods*

Determinations on Whole Serum

Group †	Turbidometric K Concentration, mEq. per Liter	Photometric Concentration, mEq. per Liter: 2-2.9	3-3.9	4-4.9	5-5.9	Over 6.0
5	More than 5	..	..	..	..	37
4	5	..	..	15	4	..
3	Between 3 and 5	..	27	44	1	..
2	3	2	11	..	..	..
1	Less than 3	4	..	..	..	..

Determinations on Diluted Serum

Group	Turbidometric K Concentration mEq. per Liter	Photometric Concentration, mEq. per Liter: Less than 6	6-6.9	7-7.9	8-8.9	9-9.9	10-10.9
5	More than 10	..	..	..	..	..	1
4	10	..	..	..	..	2	4
3	Between 6 and 10	..	1	3	3	4	3
2	6	..	3	6	3	..	..
1	Less than 6	..	2	2	..	..	..

* The numbers in the body of the table represent the number of determinations.

† See the text for an explanation of the classification.

RESULTS

A total of 145 serum samples with potassium concentrations ranging from 2 to 10 mm. per liter, as determined by a Barclay flame photometer with an internal lithium standard,[3] were reanalyzed for their potassium content by the method described above. The results of these determinations, listed in the table, show agreement adequate for most clinical purposes. Serums read as groups 1 and 5 by the slide method always contained abnormal concentrations of potassium as determined by the flame photometer.

COMMENT

The specificity of sodium cobaltinitrite for the precipitation of potassium has been reviewed by Peters and Van Slyke.[4] Silver, mercury, cesium, thallium, rubidium, and ammonia also form insoluble cobaltinitrites, but these substances are not present in sufficient quantities in fresh blood to interfere with this test.[5] Ammonia and organic acids interfere with the analysis of urine potassium by this method.[1] Stored plasma may contain large amounts of ammonia, due to the breakdown of proteins, amino acids or urea, and unless it is specially prepared, is unsuitable for analysis by this method.[4]

The micro potassium method described herein is readily applicable to clinical use. Thus the physician without access to special laboratory equipment or trained laboratory personnel no longer need be in doubt during parenteral fluid therapy that hypokalemia or hyperkalemia is present.

SUMMARY

A micromodification of the cobaltinitrite method for the determination of serum potassium content is described. With the use of equipment available in the simplest laboratory, the serum potassium concentration can be estimated in a few minutes.

2. Kingsley, G. R.: Direct Biuret Method for Determination of Serum Proteins as Applied to Photoelectric and Visual Colorimetry, J. Lab. & Clin. Med. **27**: 840, 1942.

3. Wallace, W. M.; Holliday, M.; Cushman, M., and Elkinton, J. R.: *Application of Internal Standard Flame Photometer to Analysis of* Biological Material, J. Lab. & Clin. Med. **37**: 621, 1951.

4. Peters, J. P., and Van Slyke, D. D.: Quantitative Clinical Chemistry, Baltimore, Williams & Wilkins Company, 1932, vol. 2, p. 746.

5. Davidson, C.: Personal communication to the authors. Hardy, H.: Personal communication to the authors.

COUNCIL ON PHARMACY AND CHEMISTRY

REPORT OF THE COUNCIL

The Council has authorized publication of the following report.

R. T. STORMONT, M.D., *Secretary.*

USE OF MUSCLE RELAXANTS

When the skeletal muscle relaxing drugs were first introduced, it was both hoped and expected that their use would permit a lowering of the operative mortality rate by permitting the surgeon to do effective work at a lower level of anesthesia or more effective work at the usual levels. There is no doubt that surgeons find certain kinds of operations can be more easily performed after the skeletal muscles have been relaxed by a drug of this group and that the total dose of anesthetic sometimes can be diminished by this means. Increasing evidence indicates, however, that these undoubted advantages have been attained at a price of occasional untoward effects and sometimes of serious difficulty.

That the skeletal muscle relaxants may cause failure of respiration is well known. The margin of safety between the dose necessary to produce good relaxation of voluntary muscles and that which paralyzes respiration is unfortunately small; but if failure of respiration is promptly detected and energetically treated by artificial respiration and oxygen, rapid recovery should be effected, with no untoward after-effects. Clearly, facilities for satisfactory respiration must always be on hand when muscle relaxants are to be used.

Much more serious is the circulatory collapse, easily demonstrated in animal experiments after overdosage of these drugs, and occasionally seen in patients after use of these agents, even though the dosage does not exceed that usually well tolerated. This collapse does not always respond to such measures as intravenous injections of blood, blood substitutes, or vasoconstrictor drugs. Antidotes such as neostigmine and physostigmine are often of little or no assistance. In fact, after administration of succinylcholine, they are contraindicated.

Toxic manifestations suggesting involvement of the central nervous system, effects that may again be demonstrated in animal preparations after overdosage, also are seen occasionally in patients after proper doses of these drugs. These serious forms of toxicity may be difficult or impossible to handle satisfactorily.

The operative mortality rate in good hospitals is now so low that surgeons and anesthetists may not encounter a death for long periods. It is also true that many anesthetists have used muscle relaxants without meeting with serious difficulties. However, it is not yet clear whether this is merely a fortunate coincidence, for the Council has been informed that certain unpublished data indicate a significantly higher operative mortality when these drugs are used. In any case it should be more generally realized that muscle relaxants are potent agents and as such are not devoid of danger. They should not be used routinely or indiscriminately and should be employed only when an important advantage can be gained for the patient.

The following abstract of recent nomenclature decisions of the Council is authorized for publication.

R. T. Stormont, M.D., *Secretary.*

NEW GENERIC AND BRAND NAMES RECOGNIZED BY THE COUNCIL

The Council collaborates with manufacturers in the selection of generic and brand names for marketed drug preparations presented for acceptance and also for new products still under development or clinical trial. The last report on such names appeared in The Journal, June 20, 1953, p. 709.

The following abstract lists the generic designation, the chemical name, where necessary for information, and the brand name or names simultaneously recognized for the stated firms. In general, a generic name should bear recognizable relation to the chemical name and conform as closely as consistent with brevity and practicality to existing systems of scientific nomenclature. The chief requirement for a brand name is that it should not be therapeutically suggestive.

The listing of a brand name is not to be construed as indicating Council acceptance of the product itself. Products accepted for inclusion in New and Nonofficial Remedies are announced separately.

Absorbable Gelatin Film for an absorbable, water-insoluble, non-hemostatic, non-porous, transparent gelatin-base film: Gelfilm (The Upjohn Company)

Alphaprodine Hydrochloride for *dl*-alpha-1,3-dimethyl-4-phenyl-4-propionoxypiperidine hydrochloride: Nisentil Hydrochloride (Hoffmann-LaRoche, Inc.)

Bacitracin-Neomycin for a mixture of bacitracin and neomycin sulfate: Bacimycin (Walker Laboratories, Inc.)

Benoxinate Hydrochoride for 2-diethylaminoethyl 4-amino-3-*n*-butoxybenzoate hydrochloride: Dorsacaine Hydrochloride (Smith-Dorsey, Division of The Wander Company)

Cyclopentylate Hydrochloride for β-dimethylaminoethyl (1-hydroxycyclopentyl)phenylacetate hydrochloride: Cyclogyl Hydrochloride (Schieffelin & Company)

Fructose for D-fructose: Levugen (Mead Johnson & Company)

Furazolidone for N-(5-nitro-2-furfurylidene)-3-amino-2-oxazolidone: Furoxone (Eaton Laboratories, Inc.)

Glycobiarsol to replace Bismuth Glycolylarsanilate: Milibis (Winthrop-Stearns Inc.)

Mepiperphenidol Bromide for 1-(3-hydroxy-5-methyl-4-phenylhexyl)-1-methylpiperidinium bromide: Darstine Bromide (Sharp & Dohme, Division of Merck & Co., Inc.)

Methylergonovine Tartrate for *d*-lysergic acid-(+)-butanolomide-(2) tartrate: Methergine Tartrate (Sandoz Pharmaceuticals)

Piperphenidol Hydrochloride for 5-methyl-4-phenyl-1-(1-piperidyl)-3-hexanol hydrochloride: Reltine Hydrochloride (Sharp & Dohme, Division of Merck & Co., Inc.)

Primidone for 5-phenyl-5-ethylhexahydroprimidine-4,6-dione: Mysoline (Ayerst, McKenna & Harrison, Ltd.)

Vitamin B_{12} with Instrinsic Factor Concentrate for a mixture of crystalline vitamin B_{12} and a partially purified preparation of the intrinsic factor (Castle) derived from hog stomach mucosa: Bifacton (Organon, Inc.)

COUNCIL ON FOODS AND NUTRITION

ACCEPTED FOODS

The following products have been accepted as conforming to the rules of the Council.

James R. Wilson, M.D., *Secretary.*

Dorset Foods, Ltd., Long Island City, New York.

Dorset Brand Diet Pack Condensed Cream of Mushroom Soup.

Ingredients: Fresh mushrooms, whole powdered milk, wheat flour, cornstarch, cottonseed oil, tomato purée, onion powder, spices (no sugar or salt added), and sufficient water for proper preparation.

Analysis (submitted by manufacturer).—Total solids 8.47%, moisture 91.53%, ash (minerals) 0.88%, fat (ether extract) 1.96%, protein (N × 6.25) 1.48%, crude fiber 0.14%, carbohydrate other than crude fiber (by difference) 4.01%, sodium 49 mg./100 gm.

Calories.—0.40 per gram; 11.3 per ounce.

Use.—For use in low-sodium and other therapeutic diets.

Dorset Brand Diet Pack Condensed Pea Soup.

Ingredients: Green split peas, wheat flour, carrots, cottonseed oil, onion powder, spices (no sugar or salt added), and sufficient water for proper preparation.

Analysis (submitted by manufacturer).—Total solids 17.75%, moisture 82.25%, ash (minerals) 0.97%, fat (ether extract) 1.09%, protein (N × 6.25) 4.28%, crude fiber 0.36%, carbohydrate other than crude fiber (by difference) 11.05%, sodium 14 mg./100 gm.

Calories.—0.71 per gram; 20.1 per ounce.

Use.—For use in low-sodium and other therapeutic diets.

Dorset Brand Diet Pack Condensed Tomato & Rice Soup.

Ingredients: Tomato purée, rice, wheat flour, cottonseed oil, onion powder, lemon juice, celery powder, spices (no sugar or salt added), and sufficient water for proper preparation.

Analysis (submitted by manufacturer).—Total solids 11.83%, moisture 88.17%, ash (minerals) 0.60%, fat (ether extract) 1.39%, protein (N × 6.25) 1.33%, crude fiber 0.34%, carbohydrate other than crude fiber (by difference) 8.17%, sodium 22 mg/100 gm.

Calories—0.51 per gram; 14.5 per ounce.

Use.—For use in low-sodium and other therapeutic diets.

Dorset Brand Diet Pack Condensed Vegetable Soup.

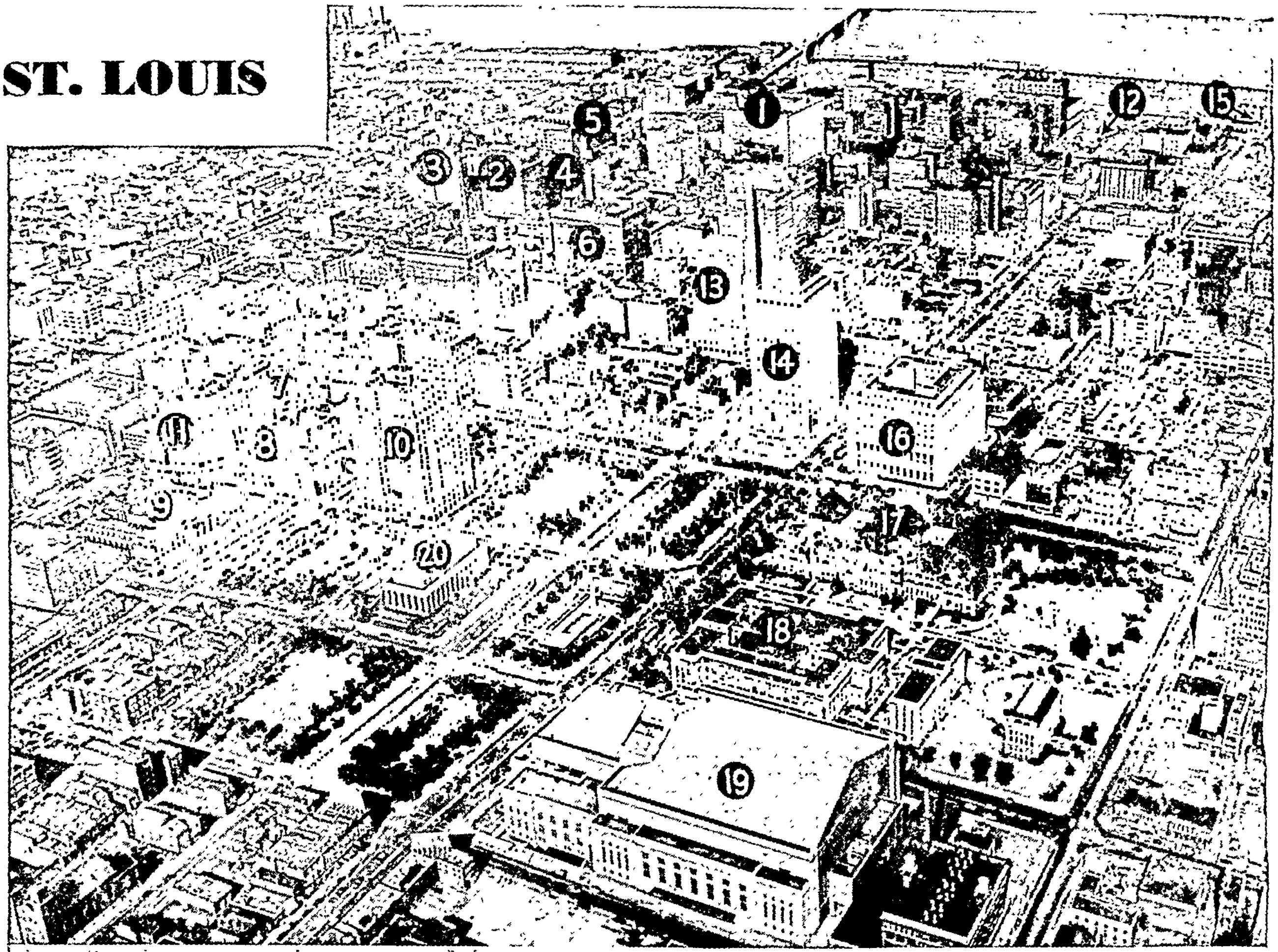
Ingredients: Tomato purée, green split peas, wheat flour, carrots, string beans, dehydrated potatoes, turnips, baby lima beans, cottonseed oil, barley, sweet potatoes, macaroni, corn, onion, celery, spices (no sugar or salt added), and sufficient water for proper preparation.

Analysis (submitted by manufacturer).—Total solids 13.53%, moisture 86.47%, ash (minerals) 0.92%, fat (ether extract) 1.19%, protein (N × 6.25) 2.21%, crude fiber 0.54%, carbohydrate other than crude fiber (by difference) 8.67%, sodium 33 mg./100 gm.

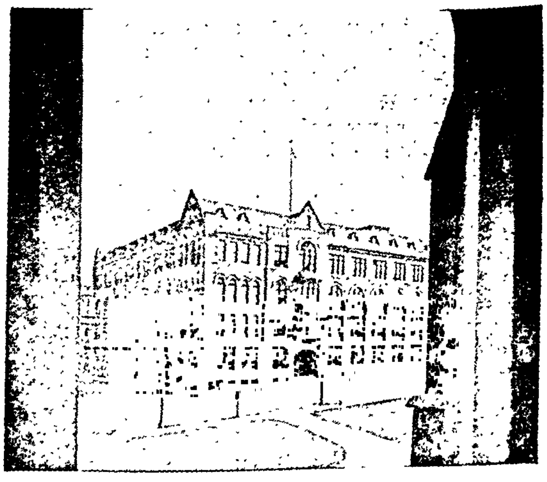
Calories.—0.54 per gram; 15.3 per ounce.

Use.—For use in low-sodium and other therapeutic diets.

ST. LOUIS



Downtown St. Louis. 1—Famous-Barr department store. 2—Statler Hotel. 3—Lennox Hotel. 4—Mayfair Hotel. 5—Stix, Baer & Fuller department store. 6—Scruggs-Vandervoort-Barney department store. 7—Jefferson Hotel. 8—Christ Church Cathedral. 9—Public Library. 10—Missouri Pacific Building. 11—Shell Building. 12—Old Court House. 13—Bell Telephone Building. 14—Civil Courts Building. 15—Old Cathedral. 16—Federal Building. 17—City Hall. 18—Municipal Courts Building. 19—Kiel Auditorium. 20—Soldiers' Memorial.



Upper left: Washington University School of Medicine.
Lower left: Headquarters of St. Louis Medical Society.
Lower right: St. Louis University School of Medicine.

THE CLINICAL MEETING

AMERICAN MEDICAL ASSOCIATION

St. Louis, December 1-4, 1953

OFFICIAL CALL

TO THE OFFICERS AND MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION

The clinical meeting of the American Medical Association will be held in St. Louis, Mo., Dec. 1-4, 1953.

The House of Delegates will convene at 10 a. m., Tuesday, Dec. 1, in the Gold Room of the Jefferson Hotel. In the House the representation of the various constituent associations for the clinical meeting in 1953 is as follows:

Alabama	2
Arizona	1
Arkansas	1
California	12
Colorado	2
Connecticut	3
Delaware	1
District of Columbia	2
Florida	2
Georgia	2
Idaho	1
Illinois	10
Indiana	4
Iowa	3
Kansas	2
Kentucky	2
Louisiana	2
Maine	1
Maryland	2
Massachusetts	5
Michigan	6
Minnesota	4
Mississippi	2
Missouri	4
Montana	1
Nebraska	2
Nevada	1
New Hampshire	1
New Jersey	5
New Mexico	1
New York	17
North Carolina	3
North Dakota	1
Ohio	7
Oklahoma	2
Oregon	2
Pennsylvania	11
Rhode Island	1
South Carolina	2
South Dakota	1
Tennessee	3
Texas	6
Utah	1
Vermont	1
Virginia	2
Washington	3
West Virginia	2
Wisconsin	3
Wyoming	1
Alaska	1
Hawaii	1
Isthmian Canal Zone	1
Puerto Rico	1

The scientific sections of the American Medical Association, the Medical Corps of the Army, the Medical Corps of the Navy, the Medical Corps of the Air Force, the Public Health Service and the Veterans Administration are entitled to one delegate each.

The Scientific Program will open Tuesday, Dec. 1, starting at 1:30 p. m., and will continue throughout the afternoon of that day. The program will continue on Wednesday and Thursday mornings and afternoons, Dec. 2 and 3, and on Friday *morning, Dec. 4, closing at 12 noon.*

The Registration Bureau, which will be located in the St. Louis Municipal Auditorium, will be open from 8:30 a. m. until 5:30 p. m., Tuesday, Wednesday and Thursday, Dec. 1-3, and from 8:30 a. m. to 12:00 noon, Friday, Dec. 4.

EDWARD J. MCCORMICK, President.
JAMES R. REULING, Speaker, House of Delegates.
GEORGE F. LULL, Secretary.

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION, 1953-1954

PRESIDENT—Edward J. McCormick, Toledo, Ohio.

PRESIDENT-ELECT—Walter B. Martin, Norfolk, Va.

VICE PRESIDENT—Carl H. Gellenthien, Valmora, N. Mex.

SECRETARY AND GENERAL MANAGER—George F. Lull, Chicago.

ASST. SECRETARY—Ernest B. Howard, Chicago.

TREASURER—J. J. Moore, Chicago.

SPEAKER, HOUSE OF DELEGATES—James R. Reuling, Bayside, N. Y.

VICE SPEAKER, HOUSE OF DELEGATES—E. Vincent Askey, Los Angeles.

EDITOR—Austin Smith, Chicago.

BUSINESS MANAGER—Thomas R. Gardiner, Chicago.

BOARD OF TRUSTEES—D. B. Allman, Atlantic City, N. J., 1954; F. J. L. Blasingame, Wharton, Texas, 1954; L. W. Larson, Bismarck, N. D., 1955; T. P. Murdock, Meriden, Conn., 1955; J. P. Price, Florence, S. C., 1956; D. H. Murray, Chairman, Napa, Calif., 1957; James R. McVay, Kansas City, Mo., 1957; E. S. Hamilton, Kankakee, Ill., 1958; G. Gundersen, LaCrosse, Wis., 1958; the President and the President-Elect.

STANDING COMMITTEES OF THE HOUSE OF DELEGATES

JUDICIAL COUNCIL—E. R. Cunniffe, Chairman, New York, 1954; L. A. Buie, Rochester, Minn., 1955; W. F. Donaldson, Pittsburgh, 1956; H. L. Pearson Jr., Miami, Fla., 1957; G. A. Woodhouse, Pleasant Hill, Ohio, 1958; G. F. Lull, Secretary, Chicago.

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS—W. L. Pressly, Due West, S. C., 1954; C. T. Stone Sr., Galveston, Texas, 1954; Harvey B. Stone, Baltimore, 1955; J. M. Faulkner, Boston, 1955; Guy A. Caldwell, New Orleans, 1956; John W. Cline, San Francisco, 1956; F. D. Murphy, Lawrence, Kan., 1957; H. G. Weiskotten, Chairman, Skaneateles, N. Y., 1957; Victor Johnson, Rochester, Minn., 1958; L. S. McKittrick, Boston, 1958; Edward L. Turner, Secretary, Chicago.

COUNCIL ON SCIENTIFIC ASSEMBLY—S. P. Reimann, Philadelphia, 1954; A. McMahon, St. Louis, 1954; C. A. Lincke, Carrollton, Ohio, 1955; M. E. DeBakey, Houston, Texas, 1956; S. P. Newman, Denver, 1957; H. R. Viets, Chairman, Boston, 1958; C. H. Phifer, Chicago, 1958; W. B. Martin, Norfolk, Va., ex officio.

COUNCIL ON MEDICAL SERVICE—Joseph D. McCarthy, Omaha, 1954; H. B. Mulholland, Charlottesville, Va., 1955; C. E. Wertz, Buffalo, 1956; Elmer Hess, Chairman, Erie, Pa., 1957; L. M. Orr II, Orlando, Fla., 1958; R. B. Homan Jr., El Paso, Texas, 1958; E. J. McCormick, Toledo, Ohio; Louis H. Bauer, Hempstead, N. Y.; David B. Allman, Atlantic City, N. J.; Mr. Thomas A. Hendricks, Secretary, Chicago.

COUNCIL ON CONSTITUTION AND BYLAWS—F. S. Winslow, Rochester, N. Y., 1954; B. E. Pickett Sr., Carrizo Springs, Texas, 1955; L. A. Buie, Chairman, Rochester, Minn., 1956; J. Stevenson, Tulsa, Okla., 1957; S. H. Osborn, Hartford, Conn., 1958; E. S. Hamilton, Kankakee, Ill.; the President and the Speaker and Vice Speaker of the House of Delegates.

STANDING COMMITTEES OF THE BOARD OF TRUSTEES

COUNCIL ON PHARMACY AND CHEMISTRY—W. C. Cutting, San Francisco, 1953; Keith S. Grimson, Durham, N. C., 1953; Morris Fishbein, Chicago, 1953; M. H. Seevers, Ann Arbor, Mich., 1953; Joseph Stokes Jr., Philadelphia, 1954; Perrin H. Long, Brooklyn, 1954; W. G. Workman, Bethesda, Md., 1954; J. Bordley III, Cooperstown, N. Y., 1954; Carl A. Dragstedt, Chicago, 1955; Isaac Starr, Philadelphia, 1955; Joseph Hayman, Cleveland, 1955; E. M. K. Geiling, Chicago, 1956; Elmer M. Nelson, Washington, D. C., 1956; Henry K. Beecher, Boston, 1956; Torald Sollmann, Chairman, Cleveland, 1957; James P. Leake, Washington, D. C., 1957; C. Guy Lane, Boston, 1957; Robert T. Stormont, Secretary, Chicago.

COUNCIL ON PHYSICAL MEDICINE AND REHABILITATION—M. A. Bowie, Swarthmore, Pa., 1953; Arthur L. Watkins, Boston, 1953; W. J. Zeiter, Cleveland, 1953; F. H. Krusen, Chairman, Rochester, Minn., 1954; Anthony C. Cipollaro, New York, 1954; Felix Butte, Dallas, Texas, 1954; O. Glasser, Cleveland, 1955; Shields Warren, Boston, 1955; Derrick Vail, Chicago, 1955; Frank R. Ober, Boston, 1956; D. M. Lierle, Iowa City, 1956; W. W. Coblentz, Washington, D. C., 1957; George M. Piersol, Philadelphia, 1957; Ralph E. DeForest, Secretary, Chicago.

COUNCIL ON FOODS AND NUTRITION—William J. Darby, Nashville, Tenn., 1953; C. A. Elvehjem, Madison, Wis., 1953; John B. Youmans, Nashville, Tenn., 1953; L. A. Maynard, New York, 1954; Grace Goldsmith, New Orleans, 1954; Charles S. Davidson, Boston, 1954; Clement A. Smith, Boston, 1955; C. S. Ladd, Washington, D. C., 1955; Howard B. Lewis, Chairman, Ann Arbor, Mich., 1956; George R. Cowgill, New Haven, Conn., 1956; J. S. McLester, Birmingham, Ala., 1957; James R. Wilson, Secretary, Chicago.

COUNCIL ON INDUSTRIAL HEALTH—R. T. Johnstone, Los Angeles, 1953; A. J. Lanza, Chairman, New York, 1953; C. D. Selby, Port Huron, Mich., 1953; Warren F. Draper, Washington, D. C., 1954; Henry H. Kessler, Newark, N. J., 1954; Oscar A. Sander, Milwaukee, 1954; Lloyd E. Hamlin, Chicago, 1955; Robert A. Kehoe, Cincinnati, 1955; W. P. Shepard, San Francisco, 1956; M. N. Newquist, New York, 1956; James S. Simmons, Boston, 1957; J. H. Sterner, Rochester, N. Y., 1957; C. M. Peterson, Secretary, Chicago.

COUNCIL ON NATIONAL EMERGENCY MEDICAL SERVICE—Roscoe L. Sensenich, South Bend, Ind., 1953; Harold C. Lueth, Evanston, Ill., 1953; Harold S. Diehl, Minneapolis, 1954; Richard L. Meiling, Columbus, Ohio, 1954; A. A. Brindley, Toledo, Ohio, 1955; W. J. Baker, Chicago, 1955; Stafford L. Warren, Los Angeles, 1956; Herbert B. Wright, Cleveland, 1956; James C. Sargent, Chairman, Milwaukee, 1957; Perrin H. Long, Brooklyn, 1957; Mr. C. Joseph Stetler, Secretary, Chicago.

COUNCIL ON RURAL HEALTH—F. S. Crockett, Chairman, Lafayette, Ind., 1953; G. F. Bond, Bat Cave, N. C., 1953; C. S. Mundy, Toledo, Ohio, 1954; C. R. Henry, Little Rock, Ark., 1954; F. A. Humphrey, Ft. Collins, Colo., 1955; N. H. Gardner, E. Hampton, Conn., 1955; A. T. Stewart, Lubbock, Texas, 1956; J. F. Doughty, Tracy, Calif., 1956; W. J. Weese, Ontario, Ore., 1957; W. A. Wright, Williston, N. D., 1957; Mrs. A. Hibbard, Secretary, Chicago.

COMMITTEE ON MENTAL HEALTH—W. H. Baer, Peoria, Ill., 1953; L. H. Bartemeier, Chairman, Detroit, 1953; L. H. Smith, Philadelphia, 1954; M. Levine, Cincinnati, 1954; F. M. Forster, Washington, D. C., 1955; H. T. Carmichael, Chicago, 1956; M. R. Kaufman, New York, 1957; R. J. Plunkett, Secretary, Chicago.

The Secretary, Assistant Secretary and Editor are ex officio members of all Standing Committees

REGISTRATION

The Registration Bureau will be located in the St. Louis Municipal Auditorium. An information bureau will be operated in connection with the Registration Bureau.

Who May Register

Members—Active, Affiliate, Associate, Service, and Honorary—and invited guests may register for attendance at meetings.

Active members in good standing in the American Medical Association are those members of component county medical societies and of constituent state and territorial medical associations whose names are officially reported for enrolment to the Secretary of the American Medical Association by the secretaries of the constituent medical associations and who have paid their annual American Medical Association membership dues, which this year are $25, to be paid through their constituent medical associations.

Residents, interns, students, nurses, and technicians will receive cards to fill in. These cards should be presented, at the window indicated, endorsed or with a letter signed by the superintendent of the hospital or the dean of the medical school they attend.

Register Early

Members living in the St. Louis area, as well as all other physicians who are in St. Louis early, should register as soon as possible. For the convenience of St. Louis physicians and those who arrive early, the Registration Bureau will be open Monday, Nov. 30, from 10 a. m. to 4 p. m.

The names and St. Louis addresses of those who register will be included in the issue of the *Daily Bulletin* appearing the next day, and this will enable visiting physicians to find friends who have registered.

Suggestions That Will Facilitate Registration

Members who have Advance Registration Cards will be registered with little or no delay. They should fill in the following information on these advance cards *prior to registration:* Hotel and number of guests.

Present the filled in card at any window and you will receive a badge and a copy of the Official Program.

Members without Advance Registration Cards will be given blank cards to fill out and present at any window. Those having with them their 1953 American Medical Association Membership pocket cards should present them with the registration cards. This will enable the clerk to complete the registration without delay and give you a badge and a copy of the Official Program.

Registration for General Officers and Delegates

General officers of the American Medical Association and members of the House of Delegates may register for the Scientific Assembly outside the Gold Room in the Jefferson Hotel on Tuesday, Dec. 1, before registering with the Reference Committee on Credentials and are advised *not* to register at the Registration Bureau since registration cards have already been made out for their use. It will also be possible for them to register on Sunday, Nov. 29, or Monday, Nov. 30, in the office of the Secretary of the Association, which will be located in the Check Room on the same floor as the Gold Room.

This arrangement is made for the convenience of members of the House of Delegates, which will convene on Tuesday morning at 10 o'clock in the Gold Room of the Jefferson Hotel. Delegates are requested to register for the Scientific Assembly before presenting credentials to the Reference Committee on Credentials of the House of Delegates. Delegates are urged to register early so that all members of the House of Delegates may be seated in time for the opening session of the House.

Registration for Lay Executives

Lay executive secretaries of component and constituent associations may register any time Sunday, Nov. 29, or Monday, Nov. 30, in the office of the Secretary of the Association at the Jefferson Hotel or any time after 12 noon Tuesday, Dec. 1, during the time of the session, at the House of Delegates registration desk in the Jefferson Hotel.

TRANSPORTATION

Railroad or Air Travel

It is suggested that those physicians who contemplate traveling to St. Louis to attend the clinical meeting of the Association secure information concerning railroad and airplane travel directly from their local ticket agents, who are in position to give them information regarding train or plane schedules and fares. Since the meeting is being held close to the Thanksgiving Holiday, when travel will be heavy, reservations should be made promptly.

ST. LOUIS HOTELS

If hotel reservations have not yet been secured by physicians, other than Delegates or Officers of the Association, who expect to attend the St. Louis meeting, it is suggested that such physicians fill in and send directly to the Chairman of the SUBCOMMITTEE ON HOTELS, Room 406, 911 Locust Street, St. Louis 1, Mo., the application form which may be found on advertising page 99 of this issue of THE JOURNAL. Please do not send applications for hotel reservations to the Association offices in Chicago.

MEETING PLACES

(See the street map on advertising page 99 in this issue of THE JOURNAL.*)*

GENERAL HEADQUARTERS, REGISTRATION BUREAU, SCIENTIFIC EXHIBIT, TECHNICAL EXHIBITS AND INFORMATION BUREAU: St. Louis Municipal Auditorium.

HOUSE OF DELEGATES: Gold Room, Jefferson Hotel.

SCIENTIFIC MEETINGS: St. Louis Municipal Auditorium. St. Louis Municipal Auditorium is located on Fourteenth Street at Market Street.

ENTERTAINMENT

The Subcommittee on Woman's Auxiliary of the St. Louis Medical Society is making plans for the entertainment of visiting women. A special program probably will be set up for Wednesday afternoon, Dec. 2.

Details of the proposed Wednesday afternoon program and other information of interest to visitors will be available at the Woman's Auxiliary Information Booth, which will be located near the Registration Bureau in the St. Louis Municipal Auditorium.

LOCAL COMMITTEE ON ARRANGEMENTS

Llewellyn Sale, Chairman
Co-Chairmen
A. N. Arneson
Jerome I. Simon

Advisory Committee

Robert E. Schlueter, Chairman
Cyrus E. Burford
R. Emmet Kane
Neil S. Moore
John C. Morfit
Charles H. Neilson
Frederick E. Woodruff
Robert A. Moore
James W. Colbert Jr.

Subcommittee on Hospitality and Information

Charles E. Martin, Chairman
John R. Brisco
Delevan Calkins
Saul Dworkin
Norton J. Eversoll
Elmer G. Graul
Preston C. Hall
Loyola F. Hayden
C. A. Jost
Harry A. Klein
B. T. Koon
Guy N. Magness
Robert C. McElvain
Charles O. Metz
William O. Mowrey
N. L. Mistachkin
John O'Connell
A. F. Plag
Leo J. Reilly
Herbert J. Rudi
Paul E. Rutledge
C. W. Schumacher
Oliver Tjoflat
William F. Wagenbach
L. F. Weyerich

Subcommittee on Woman's Auxiliary to St. Louis Medical Society

Mrs. Theodore Greiner, Chairman
Mrs. Andrew B. Jones, Co-Chairman

Information

Mrs. I. G. Tremain, Chairman
Mrs. Oliver E. Tjoflat, Co-Chairman

Hospitality

Mrs. Martin J. Glaser, Chairman
Mrs. Harold H. Feller, Co-Chairman

Subcommittee on Program

Daniel L. Sexton, Chairman

Medicine

Ralph Kinsella, Chairman
Carl V. Moore

Pediatrics

Peter Danis, Chairman
Victor Hrdlicka
Joseph Jaudon
Chester P. Lynxwiler
H. E. Wachter

Tuberculosis

Paul Murphy, Chairman
I. J. Flance
Alfred Goldman
J. L. Mudd
David Skilling

Arthritis

R. O. Muether, Chairman
Paul O. Hageman
Roland F. Neumann
Daniel E. O'Reilly

Neurology and Psychiatry

Edwin F. Gildea, Chairman
Joseph J. Gitt
James Haddock
Louis H. Kohler

Surgery

Carl A. Moyer, Chairman
James B. Brown
Oscar P. Hampton
C. Rollins Hanlon
Leo V. Mulligan
Robert O'Brien

Obstetrics and Gynecology

Robert Crossen, Chairman
Willard Allen
Paul Fletcher
Joseph Hardy Jr.
Leo J. Hartnett
Richard Paddock
Alfred I. Sherman

Cardiovascular Diseases

Arthur Strauss, Chairman
Thomas H. Burford
Melvin Goldman
John Hammond
E. Lee Shrader
John R. Smith

Dermatology

Garold V. Stryker, Chairman
James Bagby
Joseph Grindon
George Manting

Gastro-Intestinal Diseases

Joseph Larimore, Chairman
L. D. Cassidy
Robert W. Kelley
Bruce Kenamore
Harold Scheff

Television

Harry K. Purcell, Chairman
Eugene Bricker
Cyril J. Costello
Robert Glaser
William A. Knight Jr.
William F. Melick
Gene B. Starkloff

HOUSE OF DELEGATES

The House of Delegates will meet at 10 a. m., Tuesday, Dec. 1, 1953, in the Gold Room of the Jefferson Hotel.

The Reference Committee on Credentials will meet in the Lobby just outside the Gold Room at 8:30 a. m., Tuesday, Dec. 1, 1953. *Credentials should be presented to the Reference Committee on Credentials as early as possible, so that the official roll of the House may be made up and so that the House of Delegates may organize promptly and proceed with its business.* The Reference Committee on Credentials will also meet preceding each subsequent meeting of the House of Delegates.

Each delegate should present properly executed credentials signed by the president or secretary of the constituent association or by the chairman or secretary of the section he represents. Alternates presenting credentials should see that the delegates whose places they are to take have signed the alternate authorization.

Each delegate, *before* registering with the Reference Committee on Credentials, should register for the Scientific Assembly at a desk located in the Lobby near the Gold Room. Rooms have been provided for the use of committees of the House of Delegates. Reference committees are urged to have their meetings in these rooms and to announce the time of their meetings, so that any who are interested in referred matters may be able to appear before the committees.

Typists will be at the service of the members of the House of Delegates for preparing official reports, resolutions and motions in the Check Room, which is in close proximity to the Gold Room.

REFERENCE COMMITTEES OF THE HOUSE OF DELEGATES

The Speaker of the House of Delegates of the American Medical Association, Dr. James R. Reuling, New York, has appointed delegates to serve on the reference committees of the House at the St. Louis Meeting, as follows:

Amendments to the Constitution and Bylaws

William L. Benedict, *Chairman*, Section on Ophthalmology
Frank J. Elias, Minnesota
Charles L. Farrell, Rhode Island
William M. Skipp, Ohio
Deering G. Smith, New Hampshire

Board of Trustees and Secretary, Reports of

John J. Masterson, *Chairman*, New York
James Q. Graves, Louisiana
Gordon F. Harkness, Section on Laryngology, Otology, and Rhinology
L. Howard Schriver, Ohio
Norman A. Welch, Massachusetts

Credentials

Walter E. Vest, *Chairman*, West Virginia
Vincent W. Archer, Virginia
Thomas M. d'Angelo, New York
Harlan English, Illinois
James P. Hammond, Vermont

Executive Session

Joseph D. McCarthy, *Chairman*, Nebraska
Reuben B. Chrisman Jr., Florida
Lawrence R. Dame, Massachusetts
John S. DeTar, Michigan
Peter M. Murray, New York

Hygiene and Public Health

Thurman B. Givan, *Chairman*, New York
Jay J. Crane, Section on Urology
William L. Estes Jr., Pennsylvania
Hoyt B. Woolley, Idaho
Stanley B. Weld, Connecticut

Industrial Health

Donald Cass, *Chairman*, California
William R. Brooksher, Arkansas
James Stevenson, Oklahoma
William Weston Jr., South Carolina
Dexter H. Witte, Wisconsin

Insurance and Medical Service

John M. Porter, *Chairman*, Kansas
Eustace A. Allen, Georgia
Henry S. Ruth, Section on Anesthesiology
Robert B. Wood, Tennessee
Willard A. Wright, North Dakota

Legislation and Public Relations

Bruce Underwood, *Chairman*, Kentucky
R. B. Homan Jr., Texas
J. Stanley Kenney, New York
H. Kenneth Scatliff, Illinois
C. F. Strosnider, North Carolina

Medical Education and Hospitals

James Z. Appel, *Chairman*, Pennsylvania
Warde B. Allan, Maryland
Warren W. Furey, Illinois
Charles T. Stone Sr., Section on Internal Medicine
Dwight L. Wilbur, California

Medical Military Affairs

William A. Hyland, *Chairman*, Michigan
H. Russell Brown, South Dakota
Donald C. Conzett, Iowa
J. Lafe Ludwig, California
Wendell C. Stover, Indiana

Miscellaneous Business

H. Gordon MacLean, *Chairman*, California
J. Wallace Hurff, New Jersey
Harold B. Gardner, Pennsylvania
Truman C. Terrell, Texas
Martyn A. Vickers, Maine

Reports of Officers

George M. Fister, *Chairman*, Utah
Maurice J. Dattelbaum, New York
J. Paul Jones, Alabama
William H. Halley, Colorado
George A. Woodhouse, Ohio

Rules and Order of Business

Joseph B. Copeland, *Chairman*, Texas
Herbert H. Bauckus, New York
William W. Baum, Oregon
Edward L. Compere, Section on Orthopedic Surgery
O. J. Campbell, Minnesota

Sections and Section Work

Jesse D. Hamer, *Chairman*, Arizona
W. Andrew Bunten, Wyoming
Raymond F. Peterson, Montana
J. Mather Pfeiffenberger, Illinois
David W. Gaiser, Washington

Tellers

Carrington Williams Sr., *Chairman*, Virginia
William F. Brennan, Pennsylvania
Raymond T. Holden, District of Columbia
Frank A. MacDonald, California
Rolla B. Wray, Missouri

Sergeants-at-Arms

Louis W. Jones, *Master Sergeant*, Pennsylvania
John F. Lucas, Mississippi
Karl R. Ruddell, Indiana

MEETING ROOMS OF REFERENCE COMMITTEES

Reference Committee on—

Amendments to the Constitution and Bylaws	Room 8
Executive Session	Gold Room
Hygiene and Public Health	Room 3
Industrial Health	Ivory Room
Insurance and Medical Service	Ivory Room
Legislation and Public Relations	Crystal Room
Medical Education and Hospitals	East Room
Medical Military Affairs	Room 7
Miscellaneous Business	Crystal Room
Reports of Board of Trustees and Secretary	South Corridor between Crystal and Ivory Rooms
Reports of Officers	Room 4
Rules and Order of Business	Gold Room
Sections and Section Work	Room 5

MEMBERS OF HOUSE OF DELEGATES CLINICAL MEETING, 1953

Following is a list of members of the House of Delegates:

DELEGATES FROM CONSTITUENT ASSOCIATIONS

ALABAMA
J. Paul Jones, Camden
E. Bryce Robinson Jr., Fairfield

ARIZONA
Jesse D. Hamer, Phoenix

ARKANSAS
William R. Brooksher, Fort Smith

CALIFORNIA
Robertson Ward, San Francisco
Samuel J. McClendon, San Diego
Eugene F. Hoffman, Los Angeles
John Winston Green, Vallejo
Lewis A. Alesen, Los Angeles
Frank A. MacDonald, Sacramento
H. Gordon MacLean, Oakland
E. Vincent Askey, Los Angeles
Dwight L. Wilbur, San Francisco
Donald Cass, Los Angeles
J. Lafe Ludwig, Los Angeles
R. Stanley Kneeshaw, San Jose

COLORADO
George A. Unfug, Pueblo
William H. Halley, Denver

CONNECTICUT
Thomas J. Danaher, Torrington
Oliver L. Stringfield, Stamford
Stanley B. Weld, Hartford

DELAWARE
Henry T. McGuire, New Castle

DISTRICT OF COLUMBIA
Hugh H. Hussey, Washington
Raymond T. Holden, Washington

FLORIDA
Louis M. Orr II, Orlando
Reuben B. Chrisman Jr., Miami

GEORGIA
Charles H. Richardson Sr., Macon
Eustace A. Allen, Atlanta

IDAHO
H. B. Woolley, Idaho Falls

ILLINOIS
H. Kenneth Scatliff, Chicago
Fred H. Muller, Chicago
J. Mather Pfeiffenberger, Alton
Harlan English, Danville
Everett P. Coleman, Canton
Percy E. Hopkins, Chicago
Warren W. Furey, Chicago
Charles H. Phifer, Chicago
Bernard Klein, Joliet
B. E. Montgomery, Harrisburg

INDIANA
Karl R. Ruddell, Indianapolis
Wendell C. Stover, Boonville
Cleon A. Nafe, Indianapolis
Eli S. Jones, Hammond

IOWA
Gerald V. Caughlan, Council Bluffs
George Braunlich, Davenport
Donald C. Conzett, Dubuque

KANSAS
John M. Porter, Concordia
Laurence S. Nelson Sr., Salina

KENTUCKY
Bruce Underwood, Louisville
Clark Bailey, Harlan

LOUISIANA
James Q. Graves, Monroe
Val H. Fuchs, New Orleans

MAINE
Martyn A. Vickers, Bangor

MARYLAND
John W. Parsons, Baltimore
Warde B. Allan, Baltimore

MASSACHUSETTS
Charles G. Hayden, Boston
Lawrence R. Dame, Greenfield
Philip S. Foisie, Boston
Earle M. Chapman, Boston
Norman A. Welch, Boston

MICHIGAN
Ralph A. Johnson, Detroit
William A. Hyland, Grand Rapids
John S. DeTar, Milan
Wyman D. Barrett, Detroit
Willis H. Huron, Iron Mountain
Robert L. Novy, Detroit

MINNESOTA
Orwood J. Campbell, Minneapolis
George A. Earl, St. Paul
J. Arnold Bargen, Rochester
Frank J. Elias, Duluth

MISSISSIPPI
John P. Culpepper, Hattiesburg
John F. Lucas, Greenwood

MISSOURI
Robert E. Schlueter, St. Louis
Rolla B. Wray, Nevada
Paul Baldwin, Kennett
Arthur S. Bristow, Princeton

MONTANA
Raymond F. Peterson, Butte

NEBRASKA
Karl S. J. Hohlen, Lincoln
Joseph D. McCarthy, Omaha

NEVADA
Wesley W. Hall, Reno

NEW HAMPSHIRE
Deering G. Smith, Nashua

NEW JERSEY
Joseph F. Londrigan, Hoboken
William F. Costello, Dover
J. Wallace Hurff, Newark
Elmer P. Weigel, Plainfield
L. Samuel Sica, Trenton

NEW MEXICO
Carl H. Gellenthien, Valmora

NEW YORK
J. Stanley Kenney, New York
John J. Masterson, Brooklyn
Maurice J. Dattelbaum, Brooklyn
Peter M. Murray, New York
George W. Kosmak, New York
A. H. Aaron, Buffalo
R. J. Azzari, New York
Edward T. Wentworth, Rochester
Thomas M. D'Angelo, Jackson Heights
Harold F. R. Brown, Buffalo
John J. H. Keating, New York
Walter P. Anderton, New York
James R. Reuling, Bayside
Carlton E. Wertz, Buffalo
Edward P. Flood, New York
Herbert H. Bauckus, Buffalo
Thurman B. Givan, Brooklyn

NORTH CAROLINA
Charles F. Strosnider, Goldsboro
B. O. Edwards, Asheville
Millard D. Hill, Raleigh

NORTH DAKOTA
Willard A. Wright, Williston

OHIO
L. Howard Schriver, Cincinnati
Clifford C. Sherburne, Columbus
Arthur A. Brindley, Toledo
Carl A. Lincke, Carrollton
William M. Skipp, Youngstown
George A. Woodhouse, Pleasant Hill
Herbert B. Wright, Cleveland

OKLAHOMA
John F. Burton, Oklahoma City
James Stevenson, Tulsa

OREGON
William W. Baum, Salem
Raymond M. McKeown, Coos Bay

PENNSYLVANIA
William L. Estes Jr., Bethlehem
James L. Whitehill, Rochester
George S. Klump, Williamsport
Elmer Hess, Erie
James Z. Appel, Lancaster
Harold B. Gardner, Harrisburg
Charles L. Shafer, Kingston
Howard K. Petry, Harrisburg
G. C. Engel, Philadelphia
Louis W. Jones, Wilkes-Barre
William F. Brennan, Pittsburgh

RHODE ISLAND
Charles L. Farrell, Pawtucket

SOUTH CAROLINA
Joseph D. Guess, Greenville
William Weston Jr., Columbia

SOUTH DAKOTA
H. Russell Brown, Watertown

TENNESSEE
William C. Chaney, Memphis
Charles M. Hamilton, Nashville
Robert B. Wood, Knoxville

TEXAS
Truman C. Terrell, Fort Worth
Milford O. Rouse, Dallas
Joseph B. Copeland, San Antonio
Arthur C. Scott Jr., Temple
John K. Glen, Houston
Robert B. Homan Jr., El Paso

UTAH
George M. Fister, Ogden

VERMONT
James P. Hammond, Bennington

VIRGINIA
Vincent W. Archer, Charlottesville
Carrington Williams Sr., Richmond
Malcolm H. Harris, West Point

WASHINGTON
David W. Gaiser, Spokane
R. A. Benson, Bremerton
Raymond L. Zech, Seattle

WEST VIRGINIA
Frank J. Holroyd, Princeton
Walter E. Vest, Huntington

WISCONSIN
William D. Stovall, Madison
Stephen E. Gavin, Fond du Lac
Dexter H. Witte, Milwaukee

WYOMING
W. Andrew Bunten, Cheyenne

HAWAII
Homer M. Izumi, Honolulu

ISTHMIAN CANAL ZONE
Norman W. Elton, Army Chemical Center, Maryland

PUERTO RICO
F. Sanchez-Castano, Vega Baja

DELEGATES FROM THE SECTIONS AND GOVERNMENT SERVICES

ANESTHESIOLOGY
Henry S. Ruth, Philadelphia

DERMATOLOGY AND SYPHILOLOGY
Robert R. Kierland, Rochester, Minn.

DISEASES OF THE CHEST
Hollis E. Johnson, Nashville, Tenn.

EXPERIMENTAL MEDICINE AND THERAPEUTICS
Charles M. Gruber, Philadelphia

GASTROENTEROLOGY AND PROCTOLOGY
Louis A. Buie, Rochester, Minn.

GENERAL PRACTICE
Paul A. Davis, Akron, Ohio

INTERNAL MEDICINE
Charles T. Stone Sr., Galveston, Texas

LARYNGOLOGY, OTOLOGY AND RHINOLOGY
Gordon F. Harkness, Davenport, Iowa

MILITARY MEDICINE
Russel V. Lee, Palo Alto, Calif.

NERVOUS AND MENTAL DISEASES
Hans H. Reese, Madison, Wis.

OBSTETRICS AND GYNECOLOGY
Harvey B. Matthews, Brooklyn

OPHTHALMOLOGY
William L. Benedict, Rochester, Minn.

ORTHOPEDIC SURGERY
Edward L. Compere, Chicago

PATHOLOGY AND PHYSIOLOGY
Harry J. Corper, Denver

PEDIATRICS
W. L. Crawford, Rockford, Ill.

PHYSICAL MEDICINE AND REHABILITATION
Frank H. Krusen, Rochester, Minn.

PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH
R. T. Johnstone, Los Angeles

RADIOLOGY
Byrl R. Kirklin, Rochester, Minn.

SURGERY, GENERAL AND ABDOMINAL
Grover C. Penberthy, Detroit

UROLOGY
J. J. Crane, Los Angeles

UNITED STATES ARMY
Silas B. Hays

UNITED STATE NAVY
Clarence J. Brown

UNITED STATES AIR FORCE
Otis O. Benson Jr.

PUBLIC HEALTH SERVICE
Leonard A. Scheele

VETERANS ADMINISTRATION
Roy A. Wolford

There will be present also two delegates representing the Student American Medical Association:
John H. Caskey, Houston, Texas
David J. LaFond, Milwaukee

SCIENTIFIC PROGRAM

ST. LOUIS MUNICIPAL AUDITORIUM

GENERAL SESSIONS: IN OPERA HOUSE

Tuesday, Dec. 1

HENRY R. VIETS, Boston, Presiding

1:30 p. m. **Address of Welcome.**
HON. RAYMOND R. TUCKER, Mayor, City of St. Louis.

Welcome to the Seventh Annual Clinical Meeting.
E. CLAUDE BOHRER, President, Missouri State Medical Association.
A. N. ARNESON, President, St. Louis Medical Society.

2:00 p. m. **Lecture in Medicine: Opportunities for Research in General Practice.**
WILLIAM B. BEAN, Iowa City.

Wednesday Dec. 2

CARL A. MOYER, St. Louis, Presiding

1:30-2:30 **Stump the Experts.**
LEWIS E. JANUARY, Iowa City, Moderator
ROBERT L. SANDERS, Surgeon, Memphis, Tenn.
FRED G. BURKE, Pediatrician, Washington, D. C.
WILLIAM J. DIECKMANN, Obstetrician, Chicago.

Thursday, Dec. 3

E. LEE DORSETT and J. WILLIAM THOMPSON,
St. Louis, Presiding

1:30 p. m. **Lecture in Obstetrics: Prenatal Care.**
FRANK E. WHITACRE, Nashville, Tenn.

2:00 p. m. **Lecture in Surgery: Abdominal Emergencies.**
ROBERT L. SANDERS, Memphis, Tenn.

Friday, Dec. 4

M. PINSON NEAL, Columbia, Mo., Presiding

9:00-10:30 ***Clinical Pathological Conference.***
HARRY L. ALEXANDER, St. Louis, Moderator
ROBERT A. MOORE,
W. BARRY WOOD JR.,
CARL G. HARFORD,
ALBERT I. MENDELOFF,
ALFRED GOLDMAN,
HENRY A. SCHROEDER,
EDWARD MASSIE, and
HUGH M. WILSON, St. Louis.

10:30-11:00 Intermission.

11:00-12:00 **What's New in Treatment?**
CHARLES HUGH NEILSON, St. Louis, Presiding

Antibiotics. CARL G. HARFORD, St. Louis.
Diseases of the Liver. JAMES W. COLBERT, St. Louis.
Hematology. CARL V. MOORE, St. Louis.
Cardiology. JOHN J. HAMMOND, St. Louis.

SURGERY: IN ASSEMBLY HALL, ROOM 2

Tuesday afternoon, Dec. 1

JOHN W. STEWART, St. Louis, Presiding

3:00-4:00 **The Relief of Intractable Pain.**
CARL F. LIST, Grand Rapids, Mich.
DUNCAN ALEXANDER, McKinney, Texas.
RAPLH F. BOWERS, Memphis, Tenn.

4:00-5:00 **The Use of Adrenalectomy, Gonadectomy, and Hypophysectomy in the Treatment of Advanced Cancer.**
C. ROLLINS HANLON, St. Louis, *Moderator*
HENRY T. RANDALL, New York.
WILLLIAM VALK, Kansas City, Kan.

Wednesday morning, Dec. 2

Donald F. Coburn, Kansas City, Mo., Presiding
Wounds and Trauma
Leo V. Mulligan, St. Louis, Moderator.

9:00-9:10 **Introduction.**
9:10-9:25 **Brain Injuries.** Leonard T. Furlow, St. Louis.
9:25-9:40 **Injuries About the Jaw and Neck.** Louis T. Byars, St. Louis.
9:40-9:55 **Chest Injuries.** John F. Neville Jr., St. Louis.
9:55-10:05 **Blood Vessel Injuries.** Carl E. Lischer, St. Louis.
10:05-10:20 **Anesthesia in Life-Endangering Wounds.** Edward O. Kraft, Brentwood, Mo.
10:20-11:00 Intermission.

George T. Gafney, St. Louis, Presiding

11:00-11:15 **Shock: Physiologic Connotation of Clinical Signs.** C. Barber Mueller, St. Louis.
11:15-11:35 **Plasma Expanders.** William H. Amspacher, San Antonio, Texas.
11:35-12:00 **Questions and Answers.**

Wednesday afternoon, Dec. 2

Charles E. Hyndman, St. Louis, Presiding
Jerome I. Simon, St. Louis, Moderator

3:00-3:20 **Fundamentals of Surgery in Contaminated and Infected Wounds.** Oscar P. Hampton Jr., St. Louis.
3:20-3:35 **Wounds of Peripheral Nerves.** George L. Hawkins Jr., St. Louis.
3:35-3:50 **Facial Wounds.** James B. Brown, St. Louis.
3:50-4:00 **Local Therapy of the Burn Wound.** Minot P. Fryer, St. Louis.
4:00-4:15 **Wounds of the Foot.** C. Alan McAfee, St. Louis.
4:15-4:35 **Wounds of the Hand.** Sumner L. Koch, Chicago.
4:35-5:00 **Questions and Answers.**

Thursday morning, Dec. 3

E. Lawrence Keyes, St. Louis, Presiding
What's New in the Treatment of Fractures?
Ralph K. Ghormley, Rochester, Minn., Moderator

9:00-9:10 **Fractures of the Surgical Neck of the Humerus in the Aged.** Robert M. O'Brien, St. Louis.
9:10-9:20 **Compression Fractures of the Vertebra.** Frederick C. Reynolds, St. Louis.
9:20-9:30 **Hip Prosthesis in Fractures of the Femoral Neck.** Irwin B. Horwitz, St. Louis.
9:30-9:40 **T. Fractures of the Lower End of the Femur.** Earl P. Holt Jr., St. Louis.
9:40-9:50 **Fractures of the Shaft of the Tibia and Fibula.** James O. Lottes, St. Louis.
9:50-10:00 **Summary by Moderator.**
10:00-10:30 **The Care of the Patient on the Operating Table.**
Ralph M. Tovell, Hartford, Conn.
Robert Elman, St. Louis.
Carl A. Moyer, St. Louis.
10:30-11:00 Intermission.

C. E. Burford, St. Louis, Presiding

11:00-11:20 **The Treatment of Infections of the Urinary Tract.** Carl A. Wattenberg, St. Louis.
11:20-11:40 **The Treatment of Tumors of the Bladder.** Justin J. Cordonnier, St. Louis.
11:40-12:00 **Surgically Remedial Congenital Urogenital Defects.** Reed M. Nesbit, Ann Arbor, Mich.

Thursday afternoon, Dec. 3

1:30-2:30 See General Sessions.
2:30-3:00 Intermission.

Paul S. Lowenstein, St. Louis, Presiding

3:00-4:00 **Surgical Management of Peripheral Arterial Deficiencies.**
Geza de Takats, Chicago.
Walter G. Maddock, Chicago.
Leland S. McKittrick, Brookline, Mass.
4:00-5:00 ***Joint* Surgery and Cardiovascular Panel. The Mitral Problem.**
Lewis E. January, Iowa City.
Michael E. DeBakey, Houston, Texas.
Denton A. Cooley, Houston, Texas.

OBSTETRICS AND GYNECOLOGY: IN ASSEMBLY HALL, ROOM 4

Tuesday afternoon, Dec. 1

Robert J. Crossen, St. Louis, Presiding

3:00-3:30 **Use of Hormones in Gynecology.** Willard M. Allen, St. Louis.
3:30-4:00 **Uterine Carcinoma: Detection, Treatment, and Prevention.** John A. Wall Jr., Houston, Texas.
4:00-4:30 **Prolonged Labor.** Gerald W. Gustafson, Indianapolis.
4:30-5:00 **Post Partum Complications.** Richard Paddock, St. Louis.

Wednesday afternoon, Dec. 2

J. Milton Singleton, Kansas City, Mo., and
Matthew W. Weis, St. Louis, Presiding

3:00-3:30 **Pruritus Vulvae: Endocrine and Nonendocrine *Treatment*.** Robert B. Greenblatt, Augusta, Ga.
3:30-4:00 **Toxemia of Pregnancy.** William J. Dieckmann, Chicago.
4:00-5:00 **Joint Program with Cardiovascular Diseases. Heart Disease in Pregnancy.**
Julius Jensen, St. Louis.
Willis E. Brown, Little Rock, Ark.

Thursday morning, Dec. 3

Joseph A. Hardy Jr., St. Louis, Presiding

9:00-9:30 **Obstetrical Anesthesia with Special Reference to Prematurity.** Paul D. Bruns, Denver.
9:30-10:00 **Pregnancy Complicated by Diabetes or Tuberculosis.** Ralph A. Reis, Chicago.
10:00-10:30 **Rh Factor in Pregnancy.** Eugene G. Hamilton, University City, Mo.
10:30-11:00 Intermission.

Paul F. Fletcher, St. Louis, Presiding

11:00-11:30 **Pelvic Inflammatory Disease.** Charles S. Stevenson, Detroit.

11:30-12:00 **Sterility.** Marye Y. Dabney, Birmingham, Ala.

Thursday afternoon, Dec. 3

1:30-2:00 See General Sessions.

INTERNAL MEDICINE: IN OPERA HOUSE

Tuesday afternoon, Dec. 1

1:30-2:30 See General Sessions.

2:30-3:00 Intermission.

Llewellyn Sale, St. Louis, Presiding

3:00-3:30 **Rheumatic Fever and Nephritis: Prevention and Recent Developments.** Charles H. Rammelkamp Jr., Cleveland.

3:30-4:00 **Some Problems Concerned with Antibiotic Therapy.** Chester S. Keefer, Boston.

4:00-4:30 **Factors Involved in the Choice of Antibacterial Therapy.** Thomas Hunter, Charlottesville, Va.

4:30-5:00 **Prevention and Treatment of Certain Virus Infections.** G. O. Brown, St. Louis.

Wednesday morning, Dec. 2

Carl V. Moore, St. Louis, Presiding

9:00-9:30 **Secondary Dyssplenism.** Edward H. Reinhard, St. Louis.

9:30-10:00 **Importance of Defining Etiologic Mechanisms in Thrombocytopenia.** William J. Harrington, Bethesda, Md.

10:00-10:30 **Better Results in the Treatment of the Acute Leukemias and Their Complications.** Charles A. Doan, Columbus, Ohio.

10:30-11:00 Intermission.

Anthony B. Day, St. Louis, Presiding

11:00-12:00 **Clinical Pathological Conference.**
Ralph A. Kinsella Sr., St. Louis, Moderator
Henry Pinkerton, St. Louis.
Raymond O. Muether, St. Louis.
W. A. Sodeman, Columbia, Mo.

Wednesday afternoon, Dec. 2

Alphonse McMahon, St. Louis, Presiding

3:00-3:30 **The Tongue in Deficiency Disease.** William B. Bean, Iowa City.

3:30-4:00 **Pericarditis as a Clinical Problem.** W. A. Sodeman, Columbia, Mo.

4:00-4:30 **Differential Diagnosis of Jaundice.** Raymond O. Muether, St. Louis.

4:30-5:00 **Pituitary Deficiency.** Ralph A. Kinsella Jr., St. Louis.

Thursday morning, Dec. 3

Charles H. Eyermann, St. Louis, Presiding

9:00-9:30 **Cerebro-Vascular Accidents.** Roscoe L. Pullen, Columbia, Mo.

9:30-10:00 **Bacteremia.** W. Barry Wood Jr., St. Louis.

10:00-10:30 **The Effect of Cortisone on Small Blood Vessels.** Robert H. Ebert, Chicago.

10:30-11:00 Intermission.

James P. Murphy, St. Louis, Presiding

11:00-12:00 **Clinical Pathological Conference.**
Ralph A. Kinsella Sr., St. Louis, Moderator
Ferdinand C. Helwig, Maxwell G. Berry, and John H. Mayer Jr., Kansas City, Mo.

Thursday afternoon, Dec. 3

Samuel B. Grant, St. Louis, Presiding

3:00-3:30 **Hematologic Reactions to Drugs.** F. J. Heck, Rochester, Minn.

3:30-4:00 **Allergic Reactions to Drugs.** Harry L. Alexander, St. Louis.

4:00-4:30 **The Toxic Effects of Placebo Administration.** Stewart G. Wolf, Oklahoma City.

4:30-5:00 **The Role of Intravenous Carbohydrate in the Treatment of Diabetic Ketosis.** William H. Daughaday, and Marvin Rosecan, St. Louis.

ARTHRITIS: IN COMMITTEE ROOM B

Wednesday morning, Dec. 2

R. Emmet Kelly, St. Louis, Presiding

Chronic Arthritis

9:00-9:30 **Classification and Diagnosis.** C. H. Slocumb, Rochester, Minn.

9:30-10:00 **Physical Medicine.** Sedgwick Mead, St. Louis.

10:00-10:30 **Hormone Therapy.** E. F. Rosenberg, Chicago.

10:30-11:00 Intermission.

Robert C. McElvain, St. Louis, Presiding

11:00-11:30 **Orthopedic Management.** Robert M. O'Brien, St. Louis.

11:30-12:00 **Drugs and Vaccine Therapy.** Henry Rosenfeld, St. Louis.

Thursday afternoon, Dec. 3

Carl F. Vohs, St. Louis, Presiding

3:00-3:30 **Recent Advances in Diagnosis and Treatment of Gout.** Paul O. Hageman, St. Louis.

3:30-4:00 **Recent Advances in Diagnosis and Treatment of Rheumatic Fever.** Robert J. Glaser, St. Louis.

4:00-4:30 **Practical Advances in Rehabilitation of the Arthritic.** D. Elliott O'Reilly, St. Louis.

4:30-5:00 **Shoulder-Hand Syndrome in Related Disorders.** Otto Steinbrocker, New York.

PEDIATRICS: IN ASSEMBLY HALL 4

Wednesday morning, Dec. 2

Joseph C. Jaudon, St. Louis, Presiding

9:00- 9:30 **The Diagnosis and Management of Bacterial Meningitis.** Fred G. Burke, Washington, D. C.

9:30-10:00 **The Diagnosis and Management of Aseptic Meningitis Syndrome in Children.** Alex J. Steigman, Louisville, Ky.

10:00-10:30 **The Diagnosis and Management of Cerebral Palsy.** M. A. Perlstein, Chicago.

10:30-11:00 *Intermission.*

Guy N. Magness, University City, Mo., Presiding

11:00-11:30 **The Role of Physical Medicine in the Care of Cerebral Palsy.** Sedgwick Mead, St. Louis.

11:30-12:00 **Subdermal Hematomas in Infancy.**
Robert D. Mercer, Cleveland.

IN COMMITTEE ROOM B

Wednesday afternoon, Dec. 2

Peter G. Danis, St. Louis, Presiding

3:00- 3:25 **Conditions Which Stimulate Leukemia.**
S. D. Mills, Rochester, Minn.

3:25- 3:50 **The Management of Acute Leukemia.**
James P. King, St. Louis.

3:50- 4:15 **The Management of Erythroblastosis Foetalis in Relationship to Recent Knowledge.**
Fred H. Allen Jr., Boston.

4:15- 4:40 **The Diagnosis and Management of Bleeding Tendencies in Children.**
W. G. Rice, St. Louis.

4:40- 5:00 **Questions from the Floor.**

IN ASSEMBLY HALL 4

Thursday afternoon, Dec. 3

Max Deutch, St. Louis, Presiding
Acute Rheumatic Fever in Childhood:
C. P. Lynxwiler, St. Louis, Moderator

3:00- 3:30 **Diagnosis of Acute Rheumatic Fever.**
Arild E. Hansen, Galveston, Texas.

3:30- 4:00 **The Treatment of Rheumatic Fever.**
David Goldring, St. Louis.

4:00- 4:30 **Open Discussion with Questions from the Floor.**

4:30- 5:00 **The Management of Common Congenital Deformities of the Head and Neck.**
James F. Dowd, St. Louis.

CARDIOVASCULAR DISEASES: IN ASSEMBLY HALL 3

Tuesday afternoon, Dec. 1

Paul S. Barker, Ann Arbor, Mich., and
John R. Smith, St. Louis, Presiding

3:00- 3:30 **Peripheral Vascular Diseases and Their Cure.**
Isidor Mufson, New York.

3:30- 4:00 **Coronary Heart Disease and Angina Pectoris.**
Paul S. Barker, Ann Arbor, Mich., Moderator
Drew Luten, St. Louis,
Isidor Mufson, New York,
E. Sterling Nichol, Miami, Fla., and
James G. Janney Jr., St. Louis.

4:30- 5:00 **Gadgetless Cardiology.**
Arthur E. Strauss, St. Louis.

Wednesday morning, Dec. 2

F. Stanley Morest, Kansas City, Mo., *Presiding*

9:00- 9:30 **Use of Anticoagulants in Heart Disease: The First Decade.**
E. Sterling Nichol, Miami, Fla.

9:30-10:30 **Modern Concepts in Management of Hypertension.**
Henry A. Schroeder, St. Louis, Moderator
Dean F. Davies, St. Louis,
Sibley W. Hoobler, Ann Arbor, Mich.,
Edmund A. Smolik, St. Louis, and
Robert W. Wilkins, Boston.

10:30-11:00 Intermission.

J. William Fleming Jr., Moberly, Mo., Presiding

11:00-12:00 **Rheumatic Fever and Rheumatic Heart Disease.**
Lawrence I. Kahn, Clayton, Mo., and
Wright R. Adams, Chicago.

Wednesday afternoon, Dec. 2

David B. Flavan, St. Louis, Presiding

3:00- 4:00 ***The Cyanotic Child.***
C. Robert E. Wells, Philadelphia, and
Willis J. Potts, Chicago.

4:00- 5:00 **Joint Program with Obstetrics and Gynecology. Heart Disease in Pregnancy.**
Julius Jensen, St. Louis, and Willis E. Brown, Little Rock, Ark.

Thursday afternoon, Dec. 3

Thomas H. Burford, St. Louis, Presiding

3:00- 3:30 **The Cardiac Patient as a Surgical Risk.**
Seymour Brown, St. Louis.

3:30- 4:00 **Cardiac Arrest.**
Brian B. Blades, Washington, D. C.

4:00- 5:00 **Joint Program with Surgery.**
The Mitral Problem.
Lewis E. January, Iowa City,
Michael E. DeBakey, Houston, Texas, and
Denton A. Cooley, Houston, Texas.

PULMONARY DISEASES: IN COMMITTEE ROOM B

Tuesday afternoon, Dec. 1

Paul Murphy, St. Louis, *Presiding*

3:00- 3:30 **Processing the Patient with a Positive Chest Film.** John H. Skavlem, Cincinnati.

3:30- 4:00 **The Palliative Management of Intrathoracic Malignancy.** Duane M. Carr, Memphis, Tenn.

4:00- 4:30 **Crush Injuries of the Chest.**
John F. Neville Jr., St. Louis.

4:30- 5:00 **Sclerosing Pneumonitis.**
Joseph L. Lucido, St. Louis.

Thursday morning, Dec. 3

E. E. Glenn, Springfield, Mo., Presiding

9:00- 9:30 **Pulmonary Function Tests.**
Herbert C. Sweet, St. Louis.

9:30-10:00 **Cancer of the Lung.**
O. T. Claggett, Rochester, Minn.

10:00-10:30 **Pulmonary Manifestations in Disseminated Lupus.**
Philip A. Tumulty, St. Louis.

10:30-11:00 Intermission.

Lawrence E. Wood, Kansas City, Mo., Presiding

11:00-11:30 **The Present Status of Our Tuberculosis Problem.**
George D. Kettelkamp, Koch, Mo.

11:30-12:00 **The Current Treatment of Pulmonary Tuberculosis.** James J. Waring, Denver.

GASTROINTESTINAL DISEASES: IN COMMITTEE ROOM C

Wednesday afternoon, Dec. 2

Joseph W. Larimore and Robert W. Kelley, St. Louis, Presiding

3:00- 3:30 **A Critical Analysis of the Role of the Hormones in Digestive Tract Disease.**
J. Arnold Bargen, Rochester, Minn.

3:30- 4:00 **Surgical Care of Ulcerative Colitis.**
Richard K. Gilchrist, Chicago.

4:00- 4:30 **The Evaluation of Early Diagnostic Procedures in Massive Gastrointestinal Hemorrhage.**
Albert E. Stock and William A. Knight Jr., St. Louis.

4:30- 5:00 **Chronic Pancreatitis.** Robert Elman, St. Louis.

IN ASSEMBLY HALL 3

Thursday morning, Dec. 3

Emmet D. Wall, St. Louis, Presiding

9:00- 9:30 **Radiological Study of Lesions of the Stomach.**
Gladden V. Elliott, St. Louis.

9:30-10:00 **The Problem of Chronic Ulcerative Colitis.**
Joseph B. Kirsner, Chicago.

10:00-10:30 **The Role of Cortisone and ACTH in Gastrointestinal Lesions.**
H. Marvin Pollard, Ann Arbor, Mich.

10:30-11:00 Intermission.

Bruce D. Kenamore, St. Louis, Presiding

11:00-11:30 **Studies on Gastric Surgery.**
Donovan C. Browne, New Orleans.

11:30-12:00 **Changes in Surgery in Carcinoma of the Stomach: 1940-1953.**
C. H. Brown, Cleveland.

DERMATOLOGY: IN COMMITTEE ROOM C

Wednesday morning, Dec. 2

Garold V. Stryker, St. Louis, Presiding

9:00-10:00 **Panel: "Do's and Don'ts" in Dermatology.**
Clinton W. Lane, St. Louis, Moderator
Joseph B. Grindon Jr., M. D. Marcus, George A. Manting, and Newell W. Schlueter, St. Louis.

10:00-10:30 **Occupational Dermatitis.**
Leonard F. Weber, Chicago.

10:30-11:00 Intermission.

Norman Tobias, St. Louis, Presiding

11:00-11:30 **Dermatologic Manifestations of Hypoproteinemia.**
David B. Morgan, Kansas City, Mo.

11:30-12:00 **Weed Poisoning.**
W. E. Wooldridge, Springfield, Mo.

Thursday afternoon, Dec. 3

Richard S. Weiss, St. Louis, Presiding

3:00- 4:00 **Panel: Moles and Birthmarks.**
George C. Andrews, New York, Moderator
James W. Bagby, Martin F. Engman Jr., Minot P. Fryer, Hyman J. Goldman, and Arthur W. Neilson, St. Louis.

4:00- 4:30 **Insect Bites.**
Herman V. Allington, Oakland, Calif.

4:30- 5:00 **The Triad of Staphylococcic-Seborrheic Dermatitis, Allergic Dermatitis, and Psychogenic Dermatitis.**
Willliam J. Morginson, Salt Lake City.

NEUROLOGY AND PSYCHIATRY: IN COMMITTEE ROOM C

Tuesday afternoon, Dec. 1

Edwin F. Gildea, St. Louis, Presiding

3:00- 3:20 **Strokes: Differential Diagnosis.**
Adolph L. Sahs, Iowa City.

3:20- 3:40 **Aging Patterns in Cerebral Arteries: Their Significance in the Genesis of Arteriosclerosis.**
Herman T. Blumenthal, St. Louis.

3:40- 4:00 **Brain Tumor: Symptoms and Signs.**
Henry G. Schwartz, St. Louis.

4:00- 4:20 **Clinical Significance of the Electroencephalogram.**
James L. O'Leary, St. Louis.

4:20- 4:40 **Thyroid Disease and the Nervous System.**
Irwin Levy, St. Louis.

4:40- 5:00 **The Mechanism of the Neurological Symptoms and Signs in Spondylolisthesis.**
Robert D. Woolsey, St. Louis.

Thursday morning, Dec. 3

Louis H. Kohler, St. Louis, Presiding

9:00- 9:20 **Anxiety Heart Disease: Description and Treatment.**
Jackson A. Smith and Don W. Chapman, Houston, Texas.

9:20-10:00 **The Doctor's Role in the Preservation of Mental Health.**
Frank F. Tallman, Sacramento, Calif.

10:00-10:30 **Management of Attempted Suicide.**
Edwin H. Schmidt Jr., Patricia O'Neal, and Eli Robins, St. Louis.

10:30-11:00 Intermission.

Albert T. Steegmann, Kansas City, Kan., and
Robert E. Britt, St. Louis, Presiding

11:00-11:30 **The Psychology of Food Intake as It Relates to Underweight and Obesity.**
O. Spurgeon English and H. Keith Fischer, Philadelphia.

11:30-12:00 **A Usable Framework for the Practice of Comprehensive Medicine.**
George Saslow, St. Louis.

COLOR TELEVISION PROGRAM

In Cooperation with Smith, Kline and French Laboratories

ST. LOUIS MUNICIPAL AUDITORIUM: ASSEMBLY HALL 1

Tuesday afternoon, Dec. 1

3:00- 3:02 **Introduction and Welcome.**
Harry K. Purcell.

Moderators: Robert J. Glaser and David T. Graham

3:02- 3:25 **Technique of Bronchography.**
Alfred Goldman and David N. Kerr.

3:25- 3:45 **Examination of the Musculo-Skeletal System.**
Paul O. Hagemann.

3:45- 4:10 **Aerosol Detergents and Enzymes in the Treatment of Bronchial Asthma.**
Samuel C. Bukantz and Douglas W. Eastwood.

4:10- 4:30 **Localization of Brain Tumors with Radioactive Isotopes.**
William B. Seaman and Michel M. Ter-Pogossian.

4:30- 4:50 **Screening Procedures for Detection of Fat and Occult Blood in the Stools.**
Albert I. Mendeloff.

Wednesday morning, Dec. 2

Moderators: Harry K. Purcell and Jerome I. Simon

9:30-10:00 **Vein Stripping.** Charles R. Doyle.

10:00-10:10 **The Indications for Hysterectomy.**
Leo J. Hartnett.

10:10-10:40 **Abdominal Hysterectomy.** James Pennoyer.

10:40-10:50 **Injuries to the Common Duct.**
Gene B. Starkloff.

10:50-11:20 **Cholecystectomy.** Charles S. Sherwin.

11:20-11:25 **Comments on Anesthesia in Abdominal Surgery.**
Harry C. Sammons.

11:25-11:35 **Circumcision.** William F. Melick.

Wednesday afternoon, Dec. 2

Moderators: Lee T. Ford and R. H. Ramsey

3:00- 3:40 **The Interpretation and Demonstration of Orthopedic Procedures Relative to the Back.**
J. Otto Lottes, Donald O. Burst, and Vilray P. Blair Jr.

3:40- 4:15 **The Diagnosis of Peripheral Vascular Disease.**
Morton D. Pareira.

4:15- 4:50 **Clinic on Rehabilitation.**
Sedgwick Mead and D. Elliott O'Reilly.

4:50- 5:10 **The Management of Common Eye Disorders.**
Daniel Bisno.

Thursday morning, Dec. 3

Moderators: Roland S. Kieffer and
Joseph E. Von Kaenel

9:30- 9:45 **Diagnostic Techniques in Evaluation of Patients for Cardiac Surgery.** Bernard A. Bercu.

9:45-10:25 **Mitral Valvulotomy.** C. Rollins Hanlon.

10:25-10:35 **The Indications for Mitral Valvulotomy.**
C. Rollins Hanlon.

10:35-11:05 **Inguinal Herniorrhaphy.**
Joseph C. Peden Jr. and Carl E. Lischer.

11:05-11:15 **The Indications for Thyroidectomy.**
Bernard L. Sinner.

11:15-11:45 **Thyroidectomy.** Heinz Haffner.

Thursday afternoon, Dec. 3

Moderators: William A. Knight Jr. and
James G. Janney Jr.

3:00- 3:25 **The Problems in Present Day Control of Syphilis.**
Arthur W. Neilson.

3:25- 3:45 **The Problems of Growth and Development.**
Peter G. Danis.

3:45- 4:10 **Demonstration and Interpretation of Normal and Abnormal Neurological Findings.**
Louis L. Tureen.

4:10- 4:30 **Dermatology Clinic.** Louis Keller.

4:30- 4:50 **Recent Advances in the Management of Lymphoma.** G. O. Broun Sr.

4:50- 5:15 **Demonstration of Guides in the Choice of Antibiotic Therapy of Respiratory Tract Infections.** T. Van Metre.

Friday morning, Dec. 4

Moderators: James E. Lewis and
Vencel W. Hollo

9:30-10:00 **Nephrectomy.** Edward M. Cannon.

10:00-10:10 **The Diagnosis of Breast Lumps.**
Eugene M. Bricker.

10:10-10:40 **Radical Mastectomy.** C. Alan McAfee.

10:40-10:50 **The Indications for Gastrectomy in Duodenal Ulcer.** Charles L. Eckert.

10:50-11:30 **Subtotal Gastrectomy.** F. Eugene Pennington.

THE SCIENTIFIC EXHIBIT

The Scientific Exhibit will be located in Convention Hall on the second floor of Kiel Auditorium, directly above the Technical Exposition. It may be reached by ramps and stairways and by elevator adjacent to the Registration Desks.

The Committee on Scientific Exhibit has arranged several special features, including the manikin demonstrations on problems of delivery, the exhibit symposium on traffic accidents, an extensive exhibit and a question and answer conference on diabetes, and the special exhibit on fractures.

The Scientific Exhibit will open Tuesday morning, Dec. 1, at 9:00 a. m. and will close Friday, Dec. 5, at 12:00 noon. On the intervening days, it will be open from 8:30 a. m. to 5:30 p. m.

The office of the Committee on Scientific Exhibit will be located in space 103 in the Scientific Exhibit.

Committee on Scientific Exhibit

Leonard W. Larson, Bismarck, N. D., Chairman.
James R. McVay, Kansas City, Mo.
Julian P. Price, Florence, S. C.
Thomas G. Hull, Chicago, Director

Problems of Delivery—Manikin Demonstrations

Manikin demonstrations on problems of delivery will be conducted at stated intervals throughout the week by a group of outstanding obstetricians. An opportunity for questions and discussion will be given during each demonstration.

Richard Paddock, Washington University School of Medicine, St. Louis, is chairman of the group in charge of demonstrations. Demonstrations will take place at the following hours:

Tuesday, Dec. 1, 10:00 a. m., 12:00 noon, 2:30 p. m.
Wednesday, Dec. 2, 10:00 a. m., 12:00 noon, 2:30 p. m.
Thursday, Dec. 3, 12:00 noon, 2:30 p. m., 4:30 p. m.
Friday, Dec. 4, 10:00 a. m.

The following obstetricians from St. Louis University School of Medicine and/or Washington University School of Medicine, St. Louis, will conduct the demonstrations:

Roy V. Boedeker
Carl J. Dreyer
Frank P. McNalley
William H. Vogt Jr.
George J. L. Wulff

Exhibit Symposium on the Prevention of Traffic Accidents

The exhibit symposium on the prevention of traffic accidents combines the experiences of the police, the Safety Council, and the medical profession. Emphasis is placed on the responsibility of the physician in advising his patients when not to drive a motor car.

What Is Traffic Safety?

Jacob Kulowski, St. Joseph, Mo.

Since traffic is the movement or flow of persons and vehicles along a highway, traffic safety must include both human and inhuman elements for consideration. The former has been and is being emphasized in most safety programs. It is quite a simple matter to blame the driver in all traffic accidents. What about the inhuman ingredients? How much blame should rest with the poorly designed vehicles from the standpoint of safety? This phase of the problem is being at last voiced by certain well-informed citizens. Scientific investigation is in progress along these lines. It remains for physicians to assume their share of responsibility (1) by learning more about what forces are operative in traffic accidents, and (2) by agitating for safer car design. This exhibit treats of the forces involved, mechanism of the commoner injuries, and how these might be prevented.

Testing the Drinking Driver

Herman A. Heise, Milwaukee, Committee on Tests for Intoxication, National Safety Council and Committee on Medicolegal Problems, American Medical Association.

This exhibit shows the effect of alcohol related to its percentage in body fluids. Several types of apparatus that are used to determine this percentage of alcohol are presented.

Traffic Accidents Can Be Prevented

Hugh H. Waggoner, Missouri State Highway Patrol, Jefferson City, Mo.

The exhibit will present photographs, drawings, charts, and posters showing how traffic accidents can be prevented.

Operation Safety—A Safety Educational Program

David M. Baldwin and Robert G. Schmal, National Safety Council, Chicago.

The Operation Safety display depicts the role of an individual or organization in mobilizing a community for traffic safety. It shows how a year-round program of public education for traffic safety can be developed in any community with the help of Operation Safety—a complete traffic safety program issued monthly in kit form. Leaflets, posters, radio scripts, news releases, and other materials are shown, with suggestions for using them effectively.

The Indiana State Police Auto Crash Injury Research Program

Elmer Paul and John B. Klein, Indiana State Police, Indianapolis.

Photographs show various stages of accident investigation, wherein data is obtained for further research. Photographs also point out the vital importance of the medical report as required in this research.

The Physician's Responsibility in the Prevention of Traffic Accidents

Cary N. Moon Jr., Fletcher D. Woodward and Edward L. Corey, University of Virginia School of Medicine, Charlottesville, Va.

The exhibit will emphasize the responsibility of the physician in advising his patient about driving a motor car. This will include physical and mental conditions that preclude all driving, as well as instances following the administration of certain anesthetics and drugs when the patient should refrain from driving for a certain number of hours.

Diabetes

The subject of diabetes is presented by an extensive exhibit, supplemented by a question and answer conference in an adjoining room. Patients will be shown. The program is under the direction of Joslin Clinic, New England Deaconess Hospital, Boston, and the St. Louis Diabetes Association. The chairman of the group is Howard F. Root, Boston.

Diabetes Today

Howard F. Root, Elliott P. Joslin, Priscilla White, Alexander Marble, Allen P. Joslin, and Leo Krall, Joslin Clinic, Boston.

The exhibit presents changes in the small vessels of the conjunctiva in diabetic patients related to the severity and the age of diabetic patients. New data are included on the management of pregnancy in diabetic patients, particularly of the young patients with the severe type, and new data on diabetic coma and its treatment. The importance of the control of diabetes in the prevention of serious complications and particularly the prevention of the diabetes triopathy is shown. Pamphlets will be available for distribution.

Question and Answer Conference on Diabetes

The question and answer conference will be held in Committee Room A (adjoining the Scientific Exhibit) daily from 10:00 a. m. to 1:00 p. m.

Patients will be shown during the meeting. Emphasis is placed on the fact that this is a "question and answer" conference, and questions will be answered at all times. The program follows:

Tuesday, Dec. 1

10:00 a. m. Diabetic Acidosis and Its Control. Howard F. Root, Boston.
10:20 a. m. Plea for Early Diagnosis. Robert C. McElvain, St. Louis.
10:40 a. m. Diabetes History. John L. Kennedy, St. Louis.
11:00 a. m. Diagnosis in Diabetes. Howard F. Root, Boston.
11:20 a. m. Management of the New Diabetic. George A. Mahe, St. Louis.
11:40 a. m. The Changing Order in Diabetes. Howard F. Root, Boston.
12:00 noon Pregnancy and Diabetes. Priscilla White, Boston.
12:20 p. m. Key to Prevention of Diabetes—Obesity. William H. Olmsted, St. Louis.
12:40 p. m. The Insulins. Priscilla White, Boston.

Wednesday, Dec. 2

10:00 a. m. Cardiovascular Complications. Howard F. Root, Boston.
10:20 a. m. Arteriosclerosis in Intramural vs. Extramural Coronaries. Joseph C. Edwards, St. Louis.
10:40 a. m. Methods for Teaching Blind, Deaf and Handicapped Patients. Sallie Wood, St. Louis.
11:00 a. m. Children of Diabetic Mothers. Priscilla White, Boston.
11:20 a. m. Diabetes During Surgery. Henry E. Oppenheimer, St. Louis.
11:40 a. m. Diets. Howard F. Root, Boston.
12:00 noon Is The Mother of Over-Size New-Born Predisposed to Diabetes? Robert C. McElvain, St. Louis.
12:20 p.m. Necrobiosis Lipoidica and Skin Complications. Priscilla White, Boston.
12:40 p. m. Diabetic Coma: Water and Electrolytes. Howard F. Root, Boston.

Thursday, Dec. 3

10:00 a. m. Triopathy of Diabetes and Control. Howard F. Root, Boston.
10:40 a. m. The Plantar Ulcer. William H. Olmsted, St. Louis.
11:00 a. m. Childhood and Youth; Diabetic Camps. Priscilla White, Boston.
11:20 a. m. Treatment of Diabetes During Surgery. Howard F. Root, Boston.
11:40 a. m. Endocrines and Diabetes. Priscilla White, Boston.
12:00 noon Insulin Mixtures in Juvenile Diabetes. E. Paul Sheridan, Denver.
12:20 p. m. Problems in Pregnancy. Priscilla White, Boston.

Friday, Dec. 4

10:00 a. m. Hypoglycemia and Insulin. Howard F. Root, Boston.
10:20 a. m. Follow-Up Study of Five Detection Drives. Henry E. Oppenheimer, and Harold K. Roberts, St. Louis.
10:40 a. m. Management of New Diabetics. E. Paul Sheridan, Denver.
11:00 a. m. Pregnant Diabetics. Priscilla White, Boston.

Special Exhibit on Fractures

The Special Exhibit on Fractures, presented by the Fracture Exhibit Committee, includes the following subjects:

Fractures Resulting From a Fall on the Outstretched Hand
Fractures of the Lower End of the Radius
Fractures of the Ankle.

Demonstrations will be conducted daily from 9:00 a. m. to 12:00 noon and from 2:00 p. m. to 4:00 p. m. from Tuesday morning to Friday noon. Basic principles will be stressed, with particular emphasis on the interest of the physician in general practice.

Ample opportunity will be allowed for questions. Members of the committee will be present to discuss individual problems, and physicians are invited to bring roentgenograms from troublesome cases.

The Fracture Exhibit Committee is as follows:

Gordon M. Morrison, Boston, Chairman
Ralph G. Carothers, Cincinnati
Herbert W. Virgin Jr., Miami, Fla.
Kellogg Speed, Chicago, member emeritus.

An outstanding group of qualified surgeons will participate in the demonstrations:

Roy E. Brackin, Winnetka, Ill.
Clyde W. Dawson, Columbus, Ohio
Patrick C. Doran, Akron, Ohio
Theodore A. Fox, Chicago
S. S. Freedman, Lowell, Mass.
Nicholas J. Giannestras, Cincinnati
Morris E. Goldman, Lewiston, Maine
Harry B. Hall, Minneapolis
William J. Kisiel, Springfield, Mass.
Andrew R. Mailer, Madison, Wis.
James W. Martin, Omaha
John J. Milroy, Waukegan, Ill.
William R. Molony Jr., Los Angeles
Roland F. Neumann Jr., St. Louis
Col. Oscar S. Reeder, Washington, D. C.
Samuel L. Robbins, Cleveland
Edmund T. Rumble Jr., Callicoon, N. Y.
Garland F. Smith, St. Louis.

Effect of Streptomycin on the Bronchocavitary Junction and *Its Relation to Cavity Healing*

Oscar Auerbach, Harry L. Katz, and Maurice J. Small, Veterans Administration Hospital, East Orange, N. J.

By means of roentgenograms before and after courses of streptomycin, and microscopic studies of specimens resected in such cases, there is demonstrated a significant degree of epithelialization of the draining bronchus, bronchocavitary junction, and adjacent cavity wall. This material is compared with resected specimens from cases in which streptomycin was not given. Since epithelialized surfaces do not unite and heal, the therapeutic implications of this phenomenon are pointed out.

Tuberculosis Control in Illinois *State Welfare Institutions*

Otto L. Bettag and Ernest Teller, Department of Public Welfare, State of Illinois.

The tuberculosis problem in institutions reaches far beyond their walls due to frequent and close contact between the patients, their families, the hospital employees, and the community. The exhibit deals with the various aspects of tuberculosis control in large institutions, especially state mental hospitals. A short outline of the program and several charts illustrate the progress achieved in the Illinois State Welfare Institutions since 1945.

Recent Advances in the Treatment of Lung Cancer

William L. Watson, David Karnofsky, John L. Pool, William G. Cahan, Raymond K. J. Luomanen, Alexander J. Conte, and Sam H. Seal, Memorial Cancer Center and American Cancer Society, New York.

The exhibit shows the most recent surgical methods, radiation, procedures, and chemotherapeutic methods of treating lung cancer. The interdependence of these methods is demonstrated.

Foreign Bodies of the Tracheal Bronchial Tree and Esophagus

A. C. Stutsman, Washington University School of Medicine, St. Louis.

The exhibit displays roentgenograms of foreign bodies in the tracheal bronchial tree and esophagus. Some of the foreign bodies are shown mounted in plastic.

Oral Lesions

Charles K. Shofstall and William H. Shofstall, Kansas City, Mo.

This is an exhibit of colored transparencies the purpose of which is to create an interest in oral pathology and stress the importance of oral lesions as manifestations of local and systemic diseases.

Abdominal Incisions

Louis T. Palumbo and Irving A. Katz, Veterans Administration Center, Des Moines, Iowa.

The exhibit portrays the surgical anatomy and technique involved in each of the following abdominal incisions: (1) transverse, elliptical supraumbilical and infraumbilical; (2) transverse, muscle-splitting, right or left at level of umbilicus; (3) oblique, subcostal, right or left; (4) oblique, suprainguinal, left; and (5) combined thoracoabdominal, right or left. Each specific incision includes the type of surgical procedures that can be performed and the organ or organs and pathological processes that can be approached or removed through these wounds. Each incision utilized is supported by factual data, which includes the total number, wound complications, and incidence of postoperative hernia. Stress is placed upon several important factors as follows: These incisions are anatomically sound and provide excellent exposure; complications are minimized, wound separation or evisceration is almost nonexistent, and the postoperative hernia rate is extremely low.

Rehabilitation of Spinal Cord Injuries

W. Scott Allan, Liberty Mutual Insurance Company, Boston.

A series of drawings, transparencies, and photomural cutouts describe the accident, hospital care, rehabilitation therapy, and associated counseling in two selected cases of multiple injury, including spinal cord damage. Through the medium of these case histories and the facts and statistics of a general nature, the effectiveness of a specialized, coordinated program of rehabilitation is demonstrated.

Medullary Nailing for Fractures of the Shaft of the Tibia

J. Otto Lottes, Lloyd J. Hill, Stanley M. Leydig, and J. Albert Key, Washington University School of Medicine, St. Louis.

The exhibit presents 24 cases illustrating the different types of fractures of the shaft of the tibia that were treated with a triflange medullary nail. End results are shown in most of the cases and include fractures of the upper, mid, and lower third, including double and triple fractures. All fresh fractures have been nailed by the blind technique. Cases of nonunion, delayed union, and fresh fractures are shown in this series. Closed and open fractures nailed both as primary and as delayed procedures are presented. Charts show the location of the fracture sites as well as the type of fracture and the number of cases. Results of all cases in which nails were used are shown, together with the technique of blind nailing as well as of open nailing.

A Dynamic Brachial Plexus—Anatomy and Motor Function

Col. H. B. Luscombe (MC) and Capt. Joel L. Roth (MC), U. S. Army, Walter Reed Army Medical Center, Washington, D. C.

The exhibit consists of a three-dimensional anatomical demonstration of the brachial plexus and demonstrates the verbal effects of cord, root, and nerve lesions at various levels.

Reconstruction of Facial Injuries and Defects

James Barrett Brown, Minot P. Fryer, and Frank McDowell, Washington University School of Medicine, St. Louis.

Photographs of injuries and defects of the face with follow-up photographs of results of reconstructive surgery are presented. Description of internal wire fixation of fractures, composite grafts, and synthetic subcutaneous prostheses are included.

Uncommon Obstructions of the Extrahepatic Bile Ducts

Willard Bartlett, St. Louis University School of Medicine, St. Louis.

Data from personal cases of malignant and unusual nonmalignant obstructing lesions at various levels are presented in text and by color transparencies of photographs of the operative field, gross specimens, and photomicrographs, together with tabulation of statistical data from the literature as to their incidence. The data on six local adults not previously treated with surgery for benign fibrous stenosis of the extrahepatic ducts (obliterative cholangitis) have been collected by the author and are included. The importance of recognition and prompt inspection of an obstructing lesion and of avoiding an improper choice of operative procedure when such a lesion is unexpectedly encountered at exploration is stressed.

Malignant Melanoma and Moles—Clinical Diagnosis and Surgical Management

George T. Pack, I. M. Scharnagel, and Jeff Davis, Memorial Center for Cancer and Allied Diseases, New York.

The differential clinical and pathological diagnosis of malignant melanoma and moles will be presented with indications for surgical intervention and choice of procedures in particular instances. A series of scattergrams will be employed to demonstrate patterns of melanin formation and the regional distribution of benign pigmented moles in 1,000 patients, and malignant melanomas in 1,225 patients. Indications for and types of surgical procedure employed in both primary and metastatic melanoma will be illustrated by diagram and photographs. Statistics on end-results in treatment of 1,225 cases of malignant melanoma will be given.

The Control of Lip Cancer

Henry Schwarz II, José M. Sala, Vernon E. Sammons, and Joseph H. Lesser, Ellis Fischel State Cancer Hospital, Columbia, Mo.

The exhibit outlines the following points: (1) the surgical and radiotherapeutic approach to the control of the primary lip lesions; (2) the approach to the control of secondary deposits within the neck; and (3) the results of treatment at The Ellis Fischel Cancer Hospital since 1940.

Cervical Disc Lesions

J. Albert Key and Lee T. Ford, Washington University School of Medicine, St. Louis.

The exhibit outlines the key points in the diagnosis and treatment of cervical disc lesions. It points out that the treatment is most often conservative and may be carried out in most cases by the family physician.

Thyroid Tumors of Low Malignancy

V. E. Chesky, W. C. Dreese, and C. A. Hellwig, Hertzler Clinic and Hertzler Research Foundation, Halstead, Kan.

The exhibit presents an analysis of 137 cases of malignant thyroid tumors. Gross and microscopic anatomy, correlation with clinical findings, and follow-up studies are included. Treatment of the great majority of malignant thyroid tumors consists of lobectomy only. Prophylactic neck dissection in tumors of low malignancy (papilloma, Hurthle cell tumor, and invasive adenoma) is not justified.

Relationship of the Right Hepatic and Cystic Arteries to the Extrahepatic System as Seen in the Operating Room

J. Major Greene and Earle I. Greene, Cook County Hospital, Chicago Medical School, Grant Hospital and Mt. Sinai Hospital, Chicago.

Wax models diagrammatically illustrate the various locations of the right hepatic and cystic arteries in relationship to the hepatic, common, and cystic ducts. Knowledge of these abnormal locations will prevent injury to the right hepatic artery and extrahepatic system during surgery.

Testicular Tumors

Col. J. C. Kimbrough (MC) U. S. Army, Major F. E. Cook (MC), U. S. Air Force, and Capt. A. A. Borski (MC), U. S. Army, Walter Reed Army Hospital, Washington, D. C.

This exhibit emphasizes the need for early diagnosis of testicular tumors. This can be accomplished only by the routine bimanual palpation of testes. Gross and microscopic photographs of the tumors are exhibited. Radical retroperitoneal node dissection is illustrated, and the results of this form of treatment are presented in comparative tables.

Control of Cortisone Therapy in Rh Incompatibilities

Oscar B. Hunter Jr., Doctors Hospital Research Foundation and Georgetown University School of Medicine, Washington, D. C.

This exhibit outlines the theoretical considerations for the use of cortisone during pregnancies involving Rh incompatibilities, and the methods of control of proper dosage by estimation of 17-ketosteroids and pregnanediol in the urine.

Pregnancy in the Bicornuate Uterus

Frederick H. Falls, University of Illinois College of Medicine and Charlotte S. Holt, Illinois State Department of Public Health, Chicago.

The exhibit consists of sculptures, charts, drawings and x-ray translights illustrating the embryological development of the normal female genitalia and various anomalies resulting from interference with the developmental process. The comparative anatomy in other vertebrates is also shown, and the analogy between these uteri and the human bicornuate uterus is pointed out. The obstetrical complications that arise in women when such uteri become pregnant are depicted, together with suggested management.

Salpix, Ortho—A New, Water-soluble, Nonirritating X-ray Opaque Medium

I. C. Rubin, Ernst Myller, and Carl G. Hartman, Ortho Research Foundation, Raritan, N. J.

This exhibit consists of transparencies presenting (1) hysterosalpingograms showing patent as well as blocked tubes; and (2) hysterograms illustrating the adaptability of the new medium to locating lesions of the fundus, both benign and malignant.

Storage of Estrogen in Human Fat

William E. Barfield and Nelson H. Brown, Medical College of Georgia, Augusta, Ga.

Charts outline assay values for estrogens in human fat after treatment of patients with various estrogenic substances and depict rationale of treatment for menopausal patient as well as results of therapy of menopausal patients with tri-p-anisylchloroethylene. Vaginal smears before and after therapy and at various intervals after discontinuation of therapy are presented.

Modern Concepts of Endocrine Therapy in Gynecic Disorders

Herbert S. Kupperman, Stanley J. Goodman, Jay Burger, and Arthur Bernstein, Diagnostic and Endocrine Laboratories, Newark, N. J. and New York University-Bellevue Medical Center, New York.

A pictorial representation and a didactic schematic presentation of the prevailing concepts of endocrine therapy in the gynecological disturbances frequently observed in office gynecology will be shown. The proper therapeutic approach together with the prevalent etiological concepts will be presented and discussed. The methods for diagnosing and treating some of the problems in gynecology will be described in detail.

The Cytologic Approach to Gynecologic Abnormalities

E. L. Hecht and W. E. Studdiford, New York University-Bellevue Medical Center, New York.

The exhibit stresses the importance of the cytological method in gynecologic diagnosis: (1) carcinoma of the cervix, with stress on the importance of the cytological method in diagnosis of preinvasive cancer; (2) endometrial carcinoma, with stress on the newly developed technique of the endometrial aspiration smear; (3) hyperestrinism and its relation to fibromyomas, endometrial hyperplasia, carcinoma of the endometrium, and ovarian cysts and tumors (analysis of cases and kodachrome transparencies); and (4) plastic model of the female genital tract and demonstration of material and technique of taking smears.

Experiment in Treatment of Peptic Ulcer with Unrestricted Diet

Edward A. Marshall, Huron Road Hospital, East Cleveland, Ohio.

A total of 1,300 patients with x-ray evidence of ulcer have been given sufficient antacids, absorbents, and sedation to permit a full unrestricted diet without symptoms within three days. This schedule was carried out for just over four months, when all therapy was stopped and recurrence awaited, still with unrestricted diet. Results in hemorrhagic and obstructed ulcer were unusual. Follow-up showed over 50% have not had recurrence in over three years. It was felt there was some evidence that a majority of ulcers were healed during therapy. There were 28 gastrectomies in this group.

Cancer of the Stomach

Cecil O. Patterson, Milford O. Rouse, Ruth Sanders, Patricia O'Neill, and George W. Hagy, Southwestern Medical School of the University of Texas, Dallas, Texas.

This exhibit presents the problem of gastric cancer organized under three main headings of early suspicion, accurate diagnosis, and factors influencing survival and physical fitness. Material on the genetics of stomach cancer is included, as well as pertinent case histories and diagnostic data. Illustrations consist of original color drawings and charts, photographs, and transparencies.

Antacid Therapy of Peptic Ulcer

Leo L. Hardt, Frederick Steigmann, Clarence A. Maaske, and Robert Grover, Stritch School of Medicine of Loyola University, Cook County Graduate School of Medicine, Chicago, and University of Colorado School of Medicine, Denver.

A review of the rationale and development of antacids in the treatment of peptic ulcer is presented on the basis of both clinical and animal investigations. The effect of antacids and antispasmodics on motility and peptic activity is evaluated. The coating effect of some antacids as seen gastroscopically is discussed, and the possible therapeutic significance of this phenomenon evaluated. The studies on the antacid capacity of various antacids as observed in vitro and in the histamine-stimulated stomach are presented, as well as the significance of dose, mode of administration, and composition and possible side-effects of the antacids. Particular reference is given to a thixotropic gel, which has a coating effect similar to that of gastric mucin.

Aids in the Diagnosis of Benign and Malignant Ulceration of the Stomach—Gastroscopic Observation, Gastric Biopsy and Exfoliative Cytology

EMMANUEL DEUTSCH, Tufts College Medical School, Boston.

Gastroscopic observation of the presence or absence of changes in the smooth muscle layers of the stomach can help in distinguishing benign and malignant ulceration of the stomach. The changes that occur in the contour of the stomach follow the variation in contraction and relaxation of the smooth muscle layers of the gastric wall. Observation of peristaltic waves and segmental tonus changes of the stomach is of considerable value. Exfoliative cytology is a process of scraping under direct gastroscopic vision using a polyethylene tube, after which the desquamated mucosa and muscularis mucosae is aspirated and quickly prepared for cell block, then examined microscopically. Gastric biopsy specimens obtained under gastroscopic observation can be examined microscopically for definitive diagnosis.

Duodenal Intubation in Intestinal Obstruction

JOHN W. DEVINE and JOHN W. DEVINE JR., Lynchburg, Va.

A new instrument for intubating the duodenum is shown, and the technique is demonstrated. The instrument has a flexible tip control that enables the operator to insert the tube into the duodenum. Case histories showing the advantage of prompt, controlled duodenal intubation and rapid intestinal decompression using the air vent tube are presented.

Cardiac Arrest and Resuscitation in Twelve Hundred Cases—A Hospital Plan of Action

J. WILLIAM HINTON and L. CORSAN REID, New York University Post-Graduate Medical School, New York, and HUGH E. STEPHENSON JR., University of Missouri School of Medicine, Columbia, Mo.

With the use of realistic models the physician may learn the proper method of cardiac massage. The present status of cardiac resuscitation will be reviewed through the use of charts and drawings based on a detailed study of over 1,200 cases of cardiac arrest. The exhibit is designed to give the physician a more complete working knowledge through a better understanding of the physiology and pharmacology of resuscitation.

Stenotic Valvular Heart Disease—Results of Surgery

ROBERT P. GLOVER, THOMAS J. E. O'NEILL, O. HENRY JANTON, and LOUIS A. SOLOFF, Hahnemann, Episcopal, St. Christopher's for Children, Lankenau and Presbyterian hospitals, Philadelphia.

During the past five years, intracardiac surgery has passed from the exploratory, experimental stage into an universally accepted, standardized specialty with wide application. Each of the heart valves when in a state of stenosis can technically be opened. During this period of time the authors have studied and operated upon over 500 patients. It has now become clear that more than 75% of patients have shown definite improvement, in many instances of great magnitude, and the over-all operative mortality has been less than 7%. This exhibit depicts the pathology of the lesion under question and the technique of the operative approach in brief, but emphasizes the results of such surgery together with preoperative evaluation and postoperative management.

The Use of Autonomic Blocking Agents in Cardiovascular Diseases

CAPT. MARVIN MOSER (MC), U. S. Air Force, 1ST LIEUT. EDMUND H. REPPERT (MC), U. S. Army, ANDREW G. PRANDONI, and COL. THOMAS W. MATTINGLY (MC), U. S. Army, Walter Reed Army Hospital, Washington, D. C.

Results of comparative studies with hexamethonium parenterally, dibenzyline orally and parenterally, and priscoline intra-arterially on blood flow, skin temperature, and vasomotor responses in a series of patients with peripheral vascular disease are presented. An appraisal of the use of these agents in the treatment of conditions associated with (1) increased vasomotor tone, (2) the post-frostbite syndrome, (3) organic vascular disease, and (4) post-traumatic causalgia is made. They appear to have a definite but limited place in the study and treatment pain states; dibenzyline and hexamethonium proved to be especially useful. Results obtained with parenteral and oral administration of hexamethonium, apresoline, and dibenzyline, either alone or in combination, in essential, renal, and malignant hypertension as well as in the hypertension accompanying toxemia of pregnancy are summarized.

Diagnosis of Aorta-Iliac Artery Occlusion

FAY A. LEFEVRE, V. G. DEWOLFE, A. W. HUMPHRIES, E. F. POUTASSE, and J. C. ROOT, Cleveland Clinic, Cleveland.

This exhibit summarizes the study of 46 cases of obstruction of the abdominal aorta or iliac arteries. The clinical symptoms typical of this syndrome are outlined. The symptom of hip claudication, generally not recognized, is demonstrated. Twenty-nine of the 46 patients were studied by aortography. The films, with a brief history, of 12 typical cases are demonstrated. A model demonstrating the method of aortography as well as a summary of findings of the 46 cases is included.

Surgical Correction of Interatrial Septal Defects

CHARLES P. BAILEY, H. E. BOLTON, W. LIKOFF, W. L. JAMISON, and H. T. NICHOLS, Hahnemann Hospital and Medical College and The Bailey Thoracic Clinic, Philadelphia.

The exhibit demonstrates the technique for the closure of interatrial septal defects, as well as associated pulmonary-venous anomalies. The exhibit presents the surgical aspects and the results in approximately 35 cases. A very practical cardioscope is also demonstrated.

Diseases of the Mitral Valve—Diagnosis and Surgical Treatment

T. J. DRY, R. L. PARKER, J. E. EDWARDS, J. W. KIRKLIN, R. D. PRUITT, G. W. DAUGHERTY, C. H. SCHEIFLEY, A. BRUWER, R. G. TOMPKINS, and A. H. BULBULIAN, Mayo Clinic, Rochester, Minn.

Surgical treatment of mitral stenosis has been accepted as a standard procedure. Introduction of such physiological methods as cardiac catheterization has not only contributed to more accurate diagnosis but has added greatly to the understanding of the disturbed hemodynamics in mitral stenosis. This exhibit is a demonstration of (1) normal and abnormal mitral valves (stenotic, insufficient, etc.); (2) physiological data obtained by means of cardiac catheterization in mitral heart disease; (3) clinical course, diagnostic features, and differential diagnosis of mitral heart disease; and (4) indications for surgery in patients with mitral stenosis and technique of surgical treatment (commissurotomy) together with postoperative results.

Use of Intravenous Estrogens in Cardiovascular Disease

LEO GITMAN and I. J. GREENBLATT, Messinger Research Laboratory and Beth-El Hospital, Brooklyn.

The effect of intravenous administration of estrogen in degenerative cardiovascular diseases is described, with emphasis on changes in the serum beta lipoprotein and electrocardiogram.

Serum Beta Lipoprotein Studies in Hypertension and Coronary Artery Disease—A Correlative Study with the Ballistocardiogram and Electrocardiogram

THEODORE D. COHN, ROBERT A. MANDELBAUM, HARRY MANDELBAUM, and I. J. GREENBLATT, Beth-El Hospital, *Brooklyn.*

The serum beta lipoprotein of the Sf 12-20 and 20-100 groups with the ultracentrifuge technique of Gofman, was studied in 146 cases. Ballistocardiograms before and after exercise using the Dock apparatus and electrocardiographic tracings before exercise and after the one step Master's test were also performed in these cases. The study resulted in four groups according to the following factors: (1) normotension; (2) pure angina pectoris; (3) postmyocardial infarction; (4) hypertension with no angina. By use of the Sf 12-100 groups of serum beta lipoproteins as an index of atherogenesis, correlations were made of the above modalities. The data indicated evidence for use in the early diagnosis of coronary atherosclerosis.

Essential Hypertension—Diagnosis and Therapy

JOSEPH C. EDWARDS, Washington University School of Medicine, and Barnes Hospital, St. Louis.

This exhibit portrays the course of representative patients with essential hypertension of varying degrees, who have been under treatment with the hexamethonium chloride and/or 1-hydrazinophthalazine for 12 to 24 months. Directions for oral therapy and indications for parenteral therapy are given in outline form. Charts show blood pressure readings in the standing, reclining, and sitting positions of patients, in the hospital and in the office, who have been given these medications after thorough studies. Contraindications and factors to be avoided in such treatment are included, together with diagnostic criteria and methods used in treating such patients.

Vasodilating Drugs—Plethysmographic Studies—An Objective Evaluation

SAUL S. SAMUELS, Brooklyn Hebrew Hospital for the Aged, New York.

The exhibit presents the results of plethysmograph studies on the digits of patients with peripheral arterial disease to whom vasodilating drugs were administered. By means of a Winsor plethysmograph readings of pulse amplitude, skin temperature, and peripheral blood flow were recorded, yielding a purely objective evaluation of effectiveness of many available vasodilating drugs in use today.

Ballistocardiography as an Office Procedure

I. E. BUFF, Charleston, W. Va.

The use of the ballistocardiograph as a diagnostic aid in the study of cardiac disease is demonstrated by an oscilloscope, making it possible for small groups to view the procedure. The ballistocardiograph in the diagnosis of early coronary artery disease is shown. The basic principles of ballistocardiography are explained and the procedure described in detail, so that this instrument can be used in the office. Normal as well as abnormal ballistograms are included. Actual patients will be used.

Clinical Plethysmography in Peripheral Arterial Diseases

F. STANLEY MOREST, Kansas City.

A physiological approach in the study of peripheral arterial diseases can be made now by use of clinical digital plethysmography. By this method one can demonstrate the degree of arteriospasm and organic vascular disease in selecting patients for sympathectomy, and can also select that peripheral vasodilating drug which is the most efficient for the degree of arterial insufficiency present in a given patient.

A Cardiac Emergency Kit

JACOB J. SILVERMAN and MAX WERNER, Staten Island and St. Vincent's Hospitals, Staten Island, N. Y.

The average hospital emergency room today is designed primarily to handle surgical emergencies. Nevertheless, there are many cardiac conditions truly urgent that are first directed to the emergency room. Despite the brilliant advances in cardiac therapy in recent years many important drugs, some lifesaving, are not readily available. Recovery from acute cardiac conditions often depends upon the speed with which effective therapy is commenced. To facilitate the handling of cardiac emergencies there has been designed a specially constructed kit containing a supply of necessary cardiac drugs and equipment. The kit is always on hand and easily transportable, and therefore can be used throughout the hospital. The exhibit describes the kit, lists the contents, and outlines the advantages accruing from the establishment of such a kit in a hospital.

Therapeutic Equipment for Cerebral Palsy

M. A. PERLSTEIN, H. E. BARNETT, and J. G. FINDER, National Society for Crippled Children and Adults, and Michael Reese Hospital, Chicago.

The exhibit consists of miniature models of equipment used in the therapy of cerebral palsied patients, such as a stand-up table and box walker. Each model is manned by a doll manikin.

Endotracheal Anesthesia for Tonsillectomy and Adenoidectomy in Children

JOHN W. PENDER and O. E. HALLBERG, Mayo Clinic, Rochester, Minn.

The advantages of endotracheal anesthesia in adults for operation in or about the mouth have long been recognized, but this method has not been used as widely in children. Six years of experience during which endotracheal anesthesia was used routinely for tonsillectomy and adenoidectomy in children has shown that this method leads to (1) more safety for the patient, (2) better exposure of the operating field for the surgeon, and (3) more complete control of the anesthesia. The complications encountered in over a thousand children to whom endotracheal anesthesia was administered for tonsillectomy and adenoidectomy are presented. This exhibit demonstrates with models and diagram the (1) position of the endotracheal tube in relation to the surgical instruments used during various stages of the operation and (2) the equipment used and the various methods employed to deliver the anesthetic gases through the endotracheal tube to the lungs.

Treatment of Convulsive Disorders in Children

SAMUEL LIVINGSTON, The Johns Hopkins Hospital, Baltimore.

The data presented in this exhibit are based on follow-up studies of approximately 7,000 children with convulsive disorders. All of these children have been observed for a prolonged period of time, many as long as 15 to 20 years.

The Physician in Child Accident Prevention

GEORGE M. WHEATLEY, Metropolitan Life Insurance Company, New York.

The exhibit stresses the relationship of accidental injury including poisoning to the phases of growth and development of preschool and school children. It shows opportunities and techniques that practicing physicians and others can use in the study and prevention of accidents.

Congenital and Developmental Deformities of the Chest

CHARLES W. LESTER, Hospital for Special Surgery, New York.

Deformities of the chest are (1) primary, owing to malformation of the bony structure (ribs, vertebrae, and sternum) and (2) secondary, owing to defective growth and abnormal muscle pull. In the first category examples are shown of defective ribs, fused ribs, and hemivertebrae. In the latter category protrusion deformities (such as pigeon breast) and funnel chest are demonstrated, with explanation of cause and the type of surgery used when indicated.

The Mechanism of the Neurological Symptoms and Signs in Spondylolisthesis

ROBERT DEAN WOOLSEY, St. Louis University School of Medicine, St. Louis.

The exhibit is made up of charts and pictures demonstrating the anatomy of spondylolisthesis and the cause of the neurological symptoms and signs.

Control of Side-Effects of Anticonvulsant Drugs

ROBERT S. SCHWAB, JOHN A. ABBOTT, and WILLIAM H. TIMBERLAKE, Massachusetts General Hospital, Boston.

The purpose of the exhibit is to bring to the attention of physicians the possible hazards of using certain drugs in the treatment of epilepsy and the best ways to avoid various complications when these risks have to be taken. The various charts and case histories illustrate the procedure and precautions developed as safeguards in the use of drugs that carry risks. Clinical observations and examples of the so-called benign side-effects that are often encountered in the use of any drug that is taken continually by a patient through the years are shown. It is generally agreed that by the judicious use of all the known anticonvulsants at the present time, either alone or in practical combinations, the seizure incidence in over 85% of cases can be reduced.

Uses of Electroencephalogram in General Practice

JAMES L. O'LEARY, Washington University School of Medicine, St. Louis.

A series of electroencephalographic tracings with appended brief histories are presented. These illustrate the application of the electroencephalogram in determining the status of brain activity in convulsions of primary etiology, headache, vertigo, metabolic and electrolyte disturbances, and organic disease of the nervous system.

The Use of Mebaral in Alcoholism and in Anxiety

JACKSON A. SMITH, Baylor Medical College, Houston, Texas.

This exhibit describes a long-acting barbiturate that has not been habituating when used in alcoholics and that has not produced undue drowsiness when used as a daytime sedative in anxious patients. Placards describe the use, action, and dosage of this drug.

Myasthenia Gravis—Management and Diagnosis with Edrophonium Chloride (Tensilon)

KERMIT E. OSSERMAN and LAWRENCE I. KAPLAN, The Mount Sinai Hospital, New York.

The exhibit includes (1) graphic visualization of the clinical symptoms and pathological physiology of myasthenia gravis, with a summary of other diagnostic tests used; (2) pictorial and written presentation illustrating the use of edrophonium (Tensilon) for a rapid diagnostic test for myasthenia gravis suitable for office or clinic, with advantages over other diagnostic methods emphasized; (3) photographs of patients before and after intravenous administration of edrophonium; (4) outline of differential diagnosis of borderline myasthenia gravis based on the edrophonium test; and (5) the use of edrophonium chloride test for the management of the myasthenia patient to determine adequacy, inadequacy, or overtreatment with anticholinesterase drugs.

Aging (Wear and Tear) Processes in Human Cerebral Arteries

FRED P. HANDLER, J. OWEN BLACHE, and HERMAN T. BLUMENTHAL, The Jewish Hospital and St. Louis University School of Medicine, St. Louis.

This exhibit of photographs, photomicrographs, and charts shows the distribution of atheromatous plaques and their relation to vascular diameter and points of maximum wear and tear. Photomicrographs show wear and tear effects on elastic structures and the mineral changes associated with elastic fibers.

Autonomic Nervous System—The Site of Action of Various Agents

E. GREY DIMOND, KENNETH A. POWELL, and RAY EDWARD GREEN, University of Kansas Medical Center, Kansas City, Kan.

The exhibit illustrates the autonomic nervous system. Various drugs such as atropine and epinephrine are listed and beside each name is a button. Upon pressing the button the electrical system is activated and appropriate lights show up on the panel indicating the site of action of the various drugs. Their site of action, whether they are preganglionic or postganglionic blocking or stimulating agents, is indicated.

Studies on Tetracycline Hydrochloride (Achromycin Hydrochloride)

JAMES RUEGSEGGER, S. M. HARDY, and RAYMOND W. CUNNINGHAM, Lederle Laboratories Division, American Cyanamid Company, Pearl River, N. Y.

A new type of antibiotic, tetracycline hydrochloride, is presented that has markedly increased stability in solution and better tissue penetration, together with more rapid, higher, and longer lasting blood levels in much smaller doses when administered by either the oral or intravenous route.

New Diagnostic Methods for Moniliasis and Trichomoniasis

ALFRED B. KUPFERBERG, Ortho Research Foundation, Raritan, N. J., and WALTER J. NICKERSON, Rutgers University, New Brunswick, N. J.

These new diagnostic methods have been shown to be reliable yet are simple enough for handy office procedures. To demonstrate the diagnostic medium for Candida, photographs and actual cultures will be employed. The cultures on agar slants show strikingly that of all fungi only Candida species develop a dark brown to black pigment. Charts and photographs illustrate the selective nature of "Trichomonas Diluent," a solution which stains desquamated epithelial cells but leaves the trichomonad organism clear, since the living cell does not absorb the stain. This greatly facilitates and makes certain the diagnosis under the microscope.

Evaluation and Health Control of Older Persons

WILLIAM B. KOUNTZ, PHILIP G. ACKERMANN, TEOFIL KHEIM, and ALICE M. O'LEARY, Washington University School of Medicine and the St. Louis City Infirmary Hospital, St. Louis.

The exhibit is an evaluation of the clinical status of older and middle-aged persons. The studies show that there are inherent weaknesses of body function which are related in part to nutritional factors and the endocrine system. These changes suggest that a definite modification may be made in the course of diseases occurring in later periods of life such as arteriosclerosis, arthritis, diabetes, and heart disease.

Pancreatitis: Treatment Based Upon Pathogenesis

FRANKLIN B. MOOSNICK and JOHN B. FLOYD JR., Lexington, Ky.

The exhibit consists of panels (1) covering basic anatomy and physiology of the pancreas and pancreatic secretion, (2) dealing with pathogenesis with particular emphasis on disturbances in physiology which occur, and finally (3) dealing with the rational approach to therapy based on the concepts of pathogenesis that have been presented.

Clinical Application of Statistical Methods in Testing of Therapeutic Agents

LEO J. CASS, Brookline and WILLEM S. FREDERIK, Harvard School of Public Health, Boston.

A new application of the statistical method of the analysis of variances as applied to subjective observations. The mathematical representation is illustrated, and the method by which this technique is applied to an adequate clinical series and with completely unknown drugs is demonstrated. These include the advantages and weaknesses of the technique.

Food Allergy and Food Addiction

THERON G. RANDOLPH, Chicago.

Clinical differences in the type and timing of symptoms in food allergy, depending on the frequency of ingestion of specific allergens, are described. Although the occasional ingestion of an allergenic food is usually followed by the prompt development of an allergic reaction, an addictive type of response is apt to occur after its chronic cumulative use—resulting in an immediate improvement in symptoms followed by a delayed recurrence or hangover. This not only explains a patient's inability to suspect the existence of sensitivity to corn, wheat, milk, eggs, potatoes, coffee and other common foods, but also the compulsive craving for the immediate relatively beneficial effect following oft-repeated doses of such a food or its alcoholic extract, of importance, respectively, in the etiology of various clinical syndromes, including obesity and alcoholism.

Immunization in Poliomyelitis

HART E. VAN RIPER, National Foundation for Infantile Paralysis, New York.

The exhibit presents data on the properties of gamma globulin which produce temporary passive immunity, outlines the set-up of the field trials of gamma globulin, and presents the results of these trials.

Rehabilitation of Rheumatoid Arthritis

D. ELLIOTT O'REILLY and OTAKAR MACHEK, St. Louis University School of Medicine, St. Louis.

The exhibit of charts, pictures, and miniature models demonstrates a day of a rheumatoid arthritis patient, showing the problems he encounters, and the training, appliances, or gadgets that he can use to overcome these problems.

Phenylbutazone (Butazolidin)—A Non-Steroidal Agent for the Treatment of Rheumatic Diseases

BERNARD B. BRODIE, National Heart Institute, Bethesda, Md., EDWARD W. LOWMAN, JOHN J. BURNS, THEODORE CHENKIN, MURRAY WEINER, and J. MURRAY STEELE, New York University, New York.

The exhibit deals with the following aspects of phenylbutazone (Butazolidin) therapy: (1) therapeutic effects observed in a number of musculoskeletal disorders including rheumatoid arthritis, degenerative joint diseases (osteoarthritis), ankylosing spondylitis, gout, rheumatic fever, and peritonitis; (2) observations on absorption, excretion, tissue distribution, and biotransformation; (3) application of this information in the development of rational dosage regimens; (4) a comparison, with cortisone, of its anti-inflammatory activity and its effect on electrolyte and water balance, on ketosteroid excretion, and on eosinophil levels; and (5) observations of its toxic manifestations.

Prevention of Rheumatic Fever

MALCOLM J. FORD and JAMES WATT, Division of Chronic Disease and Tuberculosis, and the National Health Institute, U. S. Public Health Service, Washington, D. C., and JOHN P. HUBBARD and BURTIS BREESE, Council on Rheumatic Fever and Congenital Heart Disease, American Heart Association, New York.

The exhibit, which is based on the statement of the Council on Rheumatic Fever and Congenital Heart Disease of the American Heart Association, demonstrates the relationship between streptococcic infections and rheumatic fever, and emphasizes the fact that preventive measures are available that can prevent both the initial attack and recurrent attacks of the disease.

The Shoulder-Hand Syndrome: Clinical Features; Treatment with Sympathetic Block, Corticotropin and Cortisone

OTTO STEINBROCKER, DAVID NEUSTADT, and SAMUEL BOSCH, New York, H. HAROLD FRIEDMAN, Denver, and LYON LAPIN, Montreal, Canada.

This presentation consists of tabulations of the background, classification and etiologies of the condition, as accumulated so far by the authors, to bring out the clinical features and physiological characteristics of the symptom complex. It includes a summary of current therapy, together with a comparison of the author's results with sympathetic block, corticotropin, and cortisone. The clinical signs, injection technique, and results are illustrated by color photography.

Neurogenic Arthropathy and Dupuytren's Contracture

SEDGWICK MEAD, Washington University School of Medicine, St. Louis.

The exhibit consists of photographs of hands of patients with diseases of the nervous system having extremity deformities simulating various types of arthritis. Two types of Dupuytren's contracture are illustrated—one genetic and the other acquired. Relation to shoulder-hand syndrome and the arthritides is discussed. Case histories are given.

Ocular Prosthetics—Solutions of Several Common Fitting Problems

ALSON E. BRALEY, HOWARD WEBSTER, and LEE ALLEN, State University of Iowa, Iowa City.

Common plastic eye fitting problems have been analyzed and their solutions presented in graphic form. Oversized models demonstrate the basic engineering principles to be applied in shaping plastic eyes to achieve the best physiological and cosmetic results. A large collection of plastic eye forms cast directly from the original custom prostheses molds, as well as photographs of patients, illustrate the practical application of these solutions to the problems.

Office Procedures in Proctology

MANUEL G. SPIESMAN and LOUIS MALOW, Chicago Medical School, Chicago.

The common anorectal conditions are described, giving symptoms, diagnosis, and diagnostic aids. Office procedures and treatment are given in a concise manner. Drawings, sketches, and photographs, as well as brief descriptions, are utilized for a better understanding of proctologic problems. Anoscopy, proctoscopy, and sigmoidoscopy are described in a simple manner.

Medical Education

F. H. ARESTAD, E. H. LEVEROOS, EDWARD L. TURNER, and W. R. VON EHREN, Council on Medical Education and Hospitals, American Medical Association, Chicago.

The exhibit of the Council on Medical Education and Hospitals displays data on medical education, registration and approval of hospitals, training of interns and resident physicians, technical hospital personnel, and medical licensure. Data are included pertaining to lists of approved medical schools, hospitals approved for internships and residencies, and approved technical schools.

Studies of Analgesia in Human Beings

EDWIN G. GROSS, STUART C. CULLEN, and R. T. TIDRICK, State University of Iowa, Iowa City, Iowa.

The exhibit presents (1) an assay of analgesics in human volunteers, using the Hardy-Wolff-Goodell technique; (2) an assay of analgesics in the relief of postoperative pain and the pain of carcinoma; and (3) a comparison of morphine, meperidine (Demerol) and dl-dromoran hydrobromide given as intravenous supplementation during nitrous oxide anesthesia.

Blood Banks

W. G. RICE, St. Louis, American Association of Blood Banks.

The exhibit is designed to show the physician, technologist, nurse, and researcher as well as administrative personnel of hospitals and blood banks how a good blood bank can be set up, what it can accomplish, and how the association can be of assistance in the setting up and improvement of the blood bank activities. An outline of a national blood bank clearing house will be displayed also.

Voluntary Health Insurance

Howard Brower and Sidney Steck, Council on Medical Service, American Medical Association, Chicago.

The exhibit presents a graphic display of the types of voluntary health insurance plans available to the American people; the percentage of eligible persons enrolled in each state; and some of the characteristics of the voluntary plans, and progress being made in enrolling individuals, in increasing benefits, and broadening scope of coverage.

Transfusion of Platelet Concentrates

Allen H. Minor and Lee Burnett, Lenox Hill Hospital, New York.

The exhibit consists of pictorial representation of the preparation of platelet concentrates from normal blood and charts describing the clinical use of transfusions of these concentrates in the prophylaxis and control of thrombocytopenic bleeding.

Story of Pharmacy

Leroy A. Weidle, Jr., American College of Apothecaries, St. Louis.

The exhibit shows the story of pharmacy as well as the interprofessional relations between the medical and pharmaceutical professions.

The Medical Audit

W. A. Hutchison and H. A. Grimm, Grant Hospital, Chicago.

The exhibit of charts and photographs shows a system for reviewing the professional work in an average general hospital. The quality of professional work in the hospital is the responsibility of the medical staff. The purposes, method of organization, and benefits of the medical audit are stressed.

Blue Shield Medical Care Plans—The National Association of Blue Shield Plans

Frank E. Smith and Ned F. Parish, Blue Shield Medical Care Plans, Chicago.

The Blue Shield exhibit is designed as a service center where members of the American Medical Association and their guests are invited to stop for information about The Doctor's Own Plan.

The U. S. Navy Dental Corps Casualty Treatment Program

Comdr. J. V. Niiranen (DC) U. S. Navy, Naval Dental School, National Naval Medical Center, Bethesda, Md.

This exhibit illustrates various phases of the casualty treatment training program for naval dental officers. Featured in the exhibit are some of the training aids developed by the Navy dental school at Bethesda to develop skill and dexterity in treating casualties. One outstanding feature is a model of a military casualty fitted with several types of moulages simulating different injuries. The viewer is challenged to decide how he would handle the injuries. When the exhibit is displayed, the accepted type of emergency treatment is demonstrated at appropriate intervals. The aim of the exhibit is to create an interest in participating with Civil Defense authorities at the professional level demonstrated in the exhibit.

MOTION PICTURES

The following motion pictures will be shown daily in Kiel Auditorium from 12:15 p. m. to 2:45 p. m. in a room adjoining the Scientific Exhibit. The same program will be repeated each day for the benefit of physicians who may have conflicts in their schedules.

A Preliminary Demonstration of 3-D Cinefluorography

George H. Ramsey, Rochester, N. Y.

The introductory scene employs the thoracic portion of a prepared skeleton to illustrate the stereoscopic effect obtained by the method. A prepared skull introduces views of the living head and neck showing talking and swallowing. The passage of barium is shown through the thoracic portion of the esophagus. The film continues with views of the major thoracic structures (both superficial and internal) and concludes with scenes of a knee, a foot, and a hand. Sound, 17 minutes.

Congenital Malformations of the Heart, Part III, Cyanotic Congenital Heart Disease

Robert F. Rushmer, Seattle.

This film presents the embryology, origin, and the functional significance of congenital malformations of the heart which produce cyanosis. Sound, 30 minutes.

Fractures of the Humerus

Veterans Administration, Washington, D. C.

In this film, the anatomy of the bones and muscles with their pulls which cause displacements are demonstrated. In each fracture, the dangers of ill-advised manipulation are shown. Methods of reduction and maintenance of position are demonstrated, and the reasons for manipulations are brought into bold relief. Sound, 25 minutes.

Anti-Tuberculosis Drugs in the Medical and Surgical Treatment of Tuberculosis

H. Corwin Hinshaw, San Francisco.

This film shows what can be accomplished frequently for tuberculosis patients when hospital care, together with antibacterial drug therapy, pulmonary collapse, and surgical resection are all brought to bear upon the problem, when necessary. Sound, 30 minutes.

Special Evening Show

The following films will be shown Wednesday evening from 8:00 p. m. to 10:00 p. m. at the Statler Hotel. The Committee on Medical Motion Pictures has prepared the program.

Intra-Articular Injections of Hydrocortisone

William B. Rawls, New York.

This film shows the method of approach in order to inject joints of the fingers, toes, elbows, and shoulders, etc., with hydrocortisone. Sound, 29 minutes.

Principles of Fracture Reduction

Veterans Administration, Washington, D. C.

This film discusses certain principles, such as early reduction, neutralization of displacing muscle pulls, counter-traction, and suspension, and shows application of principles to reduction of fractures in a farmhouse situation where modern equipment is not available. Sound, 30 minutes.

Post Anesthesia Rooms

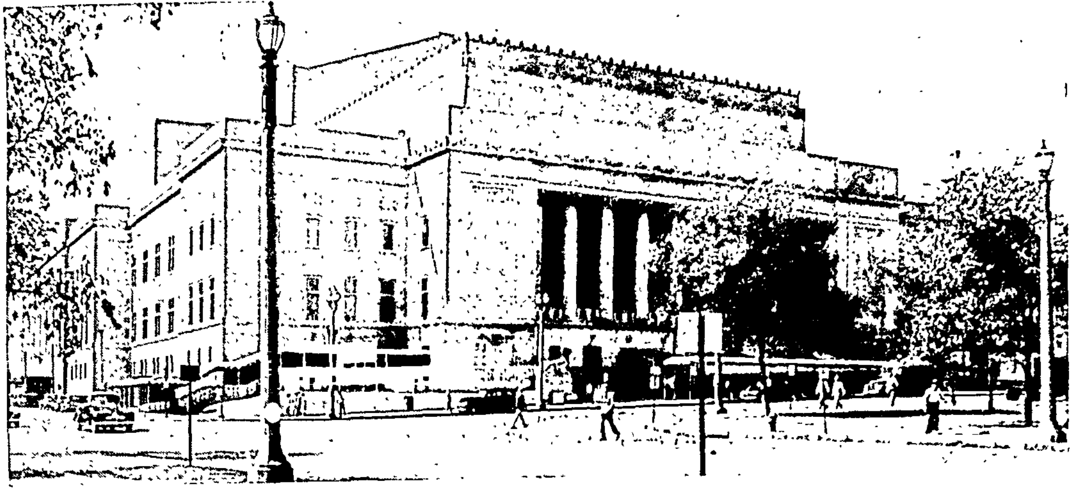
Scott M. Smith, Salt Lake City.

This film shows the various facilities of post anesthesia rooms of fifteen hospitals in the United States and Hawaii. Sound, 27 minutes.

Oral Cancer: Problem of Early Diagnosis

Charles S. Cameron, American Cancer Society, New York.

This film emphasizes techniques of biopsy in the diagnosis of cancer of the oral cavity. Complete mouth examinations as they should be carried out by physicians and dentists and a series of case histories are described. Sound, 25 minutes.



Kiel Auditorium

the TECHNICAL EXPOSITION

welcomes you

What are the new improvements in products and services? How do the technical advances serve general practice better? Your questions on these and other popular subjects will have ready answers in the 220 Technical Exhibits, occupying the Main Exhibition Hall of Kiel Auditorium.

Ever eager to show the profession what is new, after it has been proved of practical value, the exhibitors will bring to this Clinical Meeting their latest and finest offerings. From the pharmaceutical industry alone, more than fifty firms will present new remedies and new applications. Leading medical publishers will make it possible for you to examine almost any or all books of importance to the busy practitioner. Apparatus and instrument houses will have aisles of new and standard equipment.

Even more important than the bringing of these necessities and accessories of practice into one convenient exposition will be the assembly of representatives in charge of the exhibits. For the most part they will be researchers, technicians, factory engineers, or other qualified persons able to discuss the new applications, new methods and new techniques.

At this meeting, too, the Technical Exposition will have the happy advantage of being integrated with other convention activities—Scientific Exhibits, Motion Picture Program, Color Television Films, etc., all of which will be held in the spacious Kiel Auditorium. Open daily from 8:30 a.m. until 5:30 p.m., the exhibits will close at noon on Friday, December 4.

On this and the following pages, descriptive items from most of the exhibitors will give "previews" of the various booths. You are cordially invited to visit them all.

THOS. R. GARDINER
Business Manager and Director of Technical Exhibits

BOOKS

American Medical Association
Booth E-2

An invitation is extended to look over the display of A. M. A. publications for the medical profession and the general public. You probably read THE JOURNAL A. M. A. regularly, but here's an opportunity to examine copies of the nine *Special Journals*—to appraise their value in keeping you up to date. The display will also point out the advantages of membership in the A. M. A., and the attendant will supply further information on membership questions. Take a few minutes to register for a copy of TODAY'S HEALTH, the magazine for your reception room, and to leaf through the pamphlets of the Bureau of Health Education to become better acquainted with the wide variety of authoritative health information available to your patients and the general public.

The Blakiston Company
Booth A-8

The Blakiston booth will comprise their latest titles, including the just published new editions of these distinguished works: Elwyn's *Diseases of the Retina*, 2nd edition; Patten's *Human Embryology*, 2nd edition; Morris' *Human Anatomy*, 11th edition; Nelsen's *Comparative Embryology of the Vertebrates;* Harbaugh and Goodrich's *Fundamentals of Biology;* and Rusk and Taylor's *Living with a Disability*. Page proofs of the new 2nd edition of Lillie's *Histopathologic Technic* will also be available for your examination.

Chicago Reference Book Company
Booth D-28

Webster's *New International Dictionary*, Second Edition, with Reference History contains 605,000 entries, covering all fields. Actually, it is a compilation of many specialized dictionaries under one cover, such as Law, Medicine, Surgery, Horology, Engineering, Heraldry, etc. In type matter it equals a 20-volume encyclopedia, giving authoritative and concise answers to questions on any subject. This outstanding reference work is available now in 3-volume and 5-volume styles and also in India paper.

F. A. Davis Company
Booth E-9

Highlighting the F. A. Davis 75th Anniversary exhibit is the New Looseleaf *Cyclopedia of Medicine, Surgery, Specialties.* Among a complete display of titles, the latest, Ficarra *Emergency Surgery* will attract your special attention.

Encyclopaedia Britannica, Inc.
Booth E-21

Encyclopaedia Britannica, Inc., announces with a great deal of pride the release of the 1953 edition—complete with new population figures, based on the latest governmental census, together with many new illustrations and completely new articles of special current interest. It is the biggest revision of *Encyclopaedia Britannica* in over 25 years. At the booth, visitors may participate in a generous new Britannica program and inspect several bindings with Year Book and descriptive research material.

Encyclopedia Americana
Booth F-21

Here, doctors and their guests may examine the new 1953 Edition of *Encyclopedia Americana.* In addition to this well known reference, Americana will also exhibit the Fortieth Anniversary Edition of the *Book of Knowledge,* a "standby" in children's reference works.

Grune & Stratton
Booth E-13

Grune & Stratton representatives will be happy to see you again and to show you some of their latest titles. Included in the display will be: *Roentgen Diagnosis of the Heart and Great Vessels* (Zdansky and Boyd); *Stress Incontinence in the Female* (Ullery); *Multiple Myeloma* (Snapper et al.); *Diseases of the Liver* (Spellberg); *Rh-Hr Blood Types, Applications in Clinical and Legal Medicine and Anthropology* (Wiener); and many other important books in every phase of medicine and surgery.

Paul B. Hoeber, Inc.
Booth A-6

Every Hoeber-Harper book in print will be on the shelves at booth A-6, where you are welcome to browse at your leisure. Unusual new books of special interest to practitioners include: Smith & Wermer's *Modern Treatment;* Kyser's *Therapeutics in Internal Medicine* (2nd Edition); Stewart's *Cardiac Therapy;* and Cantor's *Ambulatory Proctology.*

Lea & Febiger
Booth A-9

Be sure to see the many new 1953 books and new editions published by Lea & Febiger: Bonica, *The Management of Pain;* Herbut, *Gynecological and Obstetrical Pathology;* Bellet, *Clinical Disorders of the Heart Beat;* Schroeder, *Hypertensive Diseases;* Burch, Abildskov and Cronvich, *Spatial Vectorcardiography;* Goldberger, *Unipolar Lead Electrocardiography and Vectorcardiography;* Hollander, *Comroe's Arthritis and Allied Conditions;* Portis, *Diseases of the Digestive System;* Lichtman, *Diseases of the Liver, Gallbladder and Bile Ducts;* Cozen, *Office Orthopedics;* Boyd, *Textbook of Pathology;* Epstein and Davidoff, *Atlas of Skull Roentgenograms;* and many others.

J. B. Lippincott Company
Booth A-2

J. B. Lippincott Company presents for your approval a display of professional books and journals geared to the latest and most important trends in current medicine and surgery. These publications, written and edited by men active in clinical fields and teaching, are a continuation of more than 100 years of traditionally significant publishing.

The Macmillan Company
Booth A-16

Since the A. M. A. Meeting in New York last June, The Macmillan Company has scheduled for publication many new and timely medical books. Among those which will be ready for exhibit at this Clinical Meeting will be Parsons-Duke-Elder, *Diseases of the Eye* (12th edition); Lucas, *The Symptoms and Treatment of Acute Poisoning;* and Anderson and Arnstein's *Communicable Disease Control* (3rd edition). The latter will be offered as a valuable addition to your library.

The C. V. Mosby Company
Booth C-7

A wealth of new information will be available at the C. V. Mosby booth, where you are invited to browse at your convenience. Among some of the recent titles are: Crossen *"Diseases of Women";* Anderson, *"Pathology";* Lewis, *"Pathology of Tumors";* Horsley and Bigger, *"Operative Surgery";* Jensen, *"Modern Concepts in Modern Medicine";* and many others.

Philosophical Library
Booth F-10

The Philosophical Library will exhibit some of its most recent publications, such as *Essays in Science* by Albert Einstein; *Nuclear Physics* by Werner Heisenberg; *Science and Man's Behaviour* by Trignant Burrow; and *Music Therapy* by Edward Podolsky.

W. F. Prior Company, Inc.
Booth F-6

At booth F-6 the W. F. Prior Company will display its famous loose-leaf references: Tice's *Practice of Medicine;* Lewis' *Practice of Surgery;* Brennemann's *Practice of Pediatrics;* and Davis' *Gynecology and Obstetrics.* A visit here will demonstrate to visitors what epochal changes have occurred in medicine during the past few years.

W. B. Saunders Company
Booth A-1

Saunders standards—such as Cecil-Loeb's *Medicine,* Mitchell-Nelson's *Pediatrics, Current Therapy, Dorland's Dictionary, Medical and Surgical Clinics of North America*—and a fine line of new books will make booth A-1 well worth repeated visits. Some titles of special interest are: Gross' *Surgery of Infancy and Childhood;* Cattell & Warren's *Surgery of the Pancreas;* Dunphy & Botsford's *Physical Examination of the Surgical Patient;* Sheldon, Lovell & Mathews' *Clinical Allergy;* Lewis' *Practical Dermatology;* and Parsons & Ulfelder's *Atlas of Pelvic Operations.* To their Medical and Surgical Clinic line Saunders are adding *The Pediatric Clinics of North America,* the first issue to be published in February, 1954.

State Journal Advertising Bureau
Booth A-18

The 34 state medical journals, which comprise the State Journal Group, have the same advertising standards as publications of the American Medical Association. With a total circulation of 137,046, the journals represent 39 state medical societies. Prospective advertisers are invited to stop at the S. J. A. B. booth to secure sample journals and the current rate schedule. Copies of the recent editorial survey will also be available.

DIAGNOSTIC DEVICES

Ames Company, Inc.
Booth A-4

Ictotest, a new 30-second simple tablet test for urine bilirubin will be featured here as an aid to diagnosis and management of jaundice and hepatitis. Other Ames diagnostic tablet tests on exhibit include: Clinitest, Bumintest, Acetest, and Hematest—for the determination of urine-sugar, albumin, acetone, and occult blood.

Beck-Lee Corporation
Booth C-18

Trained technicians will be on hand in booth C-18 to demonstrate and discuss Beck-Lee's latest and finest electrocardiographs, including their portable direct-writing Cardi-All. This instrument offers many unique features, such as the compamatic circuit, automatic stylus protection, and patient cable fused leads. Models E and ERA Quartz String Galvanometer-type electrocardiographs will also be on display.

Edin Company, Inc.
Booth F-2

Edin's latest model direct writing electrocardiograph will be of special interest in booth F-2. This fine instrument reflects the wide experience gained by the Edin Company in manufacturing electrocardiographs, electroencephalographs, amplifiers, recorders and other electronic instruments for clinical and research applications. Representatives will welcome an opportunity to discuss your requirements with you.

Jones Metabolism Equipment Co.
Booth D-16

Technicians and representatives in booth D-16 will be pleased to demonstrate the Jones Metabolism equipment. A visit here will demonstrate how the routine use of the BMR can be of great help in many seldom-thought-of phases of practice.

Sanborn Company
Booth C-9

Latest Sanborn instruments for clinical diagnosis, shown in booth C-9, will include: the Viso-Cardiette, direct-writing electrocardiograph; the Metabulator, self-enclosed metabolism tester; and the new Sanborn Twin-Beam, two-channel photographic recorder, for simultaneous (or separate) recording of diagnostic phonocardiograms and high-deflection speed electrocardiograms, plus electrical auscultation. Complete data will also be available on the Sanborn Twin and Poly-Visos, two and four-channel biophysical research recording systems; and on the Sanborn Electromanometer, widely-used instrument for physiologic pressure measurements.

DIETETIC PRODUCTS

Adolph's, Ltd.
Booth E-18

The internationally-known Adolph's Meat Tenderizers (seasoned and non-seasoned) which make meat more tender; and Adolph's Salt Substitute, their newest aid to the low-sodium dieter, will merit your attention at booth E-18. Samples and information on both products will be available.

American Bakers Association
Booth C-14

Enriched Bread, now fully 80 per cent of marketed white bread, has resulted from a program initiated by physicians some 17 years ago in the aim to overcome widespread and serious deficiencies of B vitamins and iron in the American dietary. The exhibit of the American Bakers Association defines the nutritional value of enriched bread and its place in the diet. An interesting leaflet on enriched bread in normal and special diets is available.

The Best Foods, Inc.

Booth D-12

"Interesting . . . good" is what you will say after a visit to the Best Foods booth. Here you will see Hellmann's and Best Foods Real Mayonnaise, French Dressing, Old Homestead French Dressing, Relish Sandwich Spread, Best Foods Mustard with Horseradish and Fanning's Bread & Butter Pickles. You may also learn more about Nucoa Margarine, the first yellow margarine with food value in every single ingredient. No benzoate preservative and no synthetic flavor are added. Even Nucoa's sunny color comes from nature. Its vitamin A is carotene; its vitamin D is pure calciferol. Miss Elsie Stark, Director of Consumer Education, will welcome you at the booth and provide information on the properties and uses of Hellmann's and Best Foods Products.

The Bib Corporation

Booth E-33

The Bib Corporation will exhibit an exact scale model of their canning plant. This model which contains over 1,000 working parts required two months of labor to assemble. At the exhibit visitors will be given a taste test of Bib Orange, Orange-Apricot and Prune-Orange juices. Doctors registering at the booth will receive descriptive and informative literature on all three Bib Baby Juice flavors.

Borcherdt Malt Extract Company

Booth D-26

Like a "malted"? Stop at the Borcherdt booth and taste Malt Soup Extract in milk. It's delicious. This dependable laxative modifier of milk for constipated babies has also proved effective in softening the hard dry stools of constipated elderly patients. Taste it and see why baby and grandma both like it.

Carnation Company

Booth C-10

A cordial reception awaits you at booth C-10 where you will see a series of translites on Carnation's canning and sterilization process. Medical representatives will explain the processing and give you reasons why Carnation Milk deserves consideration as a first choice in infant feeding formulas.

The Coca-Cola Company

Booth C-21

Ice cold Coca-Cola will be served through the courtesy and cooperation of the Coca-Cola Bottling Company of St. Louis and The Coca-Cola Company.

General Foods Corporation

Booth E-10, F-8

For your enjoyment, stop at booth F-8 for a refreshing beverage—Bird's Eye Orange Juice, made of the quick frozen concentrate; or Instant Sanka, 97% caffein free. Minute Rice and Minute Tapioca will also merit your attention here. Wives will be most welcome and may want to register for a special assortment of recipes. At booth E-10, delicious Postum Milkshakes will be served. Postum, a favorite beverage for many years, will be featured as a refreshing milk shake and as a nightcap. While at this booth, ask about D-Zerta, a saccharine-sweetened fruit-flavored gelatin especially suitable for diabetic and reducing diets. Literature on all products will be available at both exhibits.

Gerber's Baby Foods

Booth B-3

Gerber's will exhibit their wide variety of starting Cereals, Meats for Babies, Strained Foods and Junior Foods which provide for complete first-year supplementary feeding. A visit to the Gerber booth will help you keep in touch with "What's new in baby foods." It will permit you to review revised and new service literature on infant care and adult therapeutic and convalescent diets.

"Junket" Brand Foods

Booth B-18

Essential facts on the chemistry of the rennet enzyme and the nutritional significance and psychologic value of rennet desserts in the diet of infants and children will be discussed. The enzymatic action of rennet in producing softer, finer, more readily-digestible milk curds will be illustrated by enlarged photos. Literature describing the dietary applications of rennet products will be available for your reference.

Loma Linda Food Company

Booth D-13

As an aid in solving many feeding problems, especially those related to allergy, the new Soyalac Infant Food will be of particular interest. Attendants at the booth will be happy to discuss the uses of this hypo-allergenic food in infant, child and adult special diets. A sample of flavorful Soyalac will be served at the exhibit.

M & R Laboratories

Booth C-2

Similac representatives are happy to take part in this meeting and to have an opportunity to discuss with you the role of Similac in infant feeding. At the booth they will have the latest pediatric research conference reports and current reprints of pediatric nutritional interest.

Mead Johnson & Company

Booth D-18

Featured products in the Mead Johnson exhibit will be: Lactum, Mead's liquid formula for infants; Dextri-Maltose, a carbohydrate of choice in infant feeding; vitamins and cereals for infants and children; Sustagen, a new product offering a completely new approach to tube feeding; and Levugen, the first pure fructose for intravenous infusion.

Pepsi-Cola Company

Booth F-22

Pepsi-Cola Company will play "host" to members of the American Medical Association at this clinical meeting. Ice-cold Pepsi will be "at home" in booth F-22. Plan to drop in and say "hello."

Pet Milk Company

Booth C-20

Specially trained representatives will be in attendance to discuss the merits of Pet Evaporated Milk in infant feeding and Pet Nonfat Dry Milk in high protein diets. A variety of time-savers for busy physicians will be furnished on request. Miniature Pet Milk cans will be given to visitors at the exhibit.

Ralston Purina Company

Booth C-6

The Ralston Purina Company's free dietary services may be examined and ordered at booth C-6. These include a series of Low Calorie diets; five different food Allergy diets; a diet for nomal Pregnancy; a set of Feeding Direction Forms for infants and young children; and Normal and Gaining diets. Professional personnel will be available to answer your questions about Ry-Krisp and Ralston Whole Wheat Cereals.

The Seven-Up Company

Booth E-6

"Fresh Up with 7-Up" is your invitation to visit booth E-6 for a chilled bottle of this sparkling drink. Representatives at the exhibit will be happy to serve you.

Swift & Company

Booth B-6

Strained Egg Yolks for Babies is the featured attraction at the Swift exhibit. This new product, by the originator of 100% Meats for Babies, provides a convenient, economical way to feed egg yolks. Swift representatives will be glad to sample and discuss this new product with you. Also available will be information on many clinical studies which have been sponsored by Swift & Company on the value of meat in the infant diet.

Sunkist Growers

Booth A-5

Two widely separated applications of citrus fruits to therapy will be subjects of the Sunkist Growers' exhibit. One deals with the use of lemon juice in increasing palatability of low sodium diets and the other with the contribution of the protopectins found in oranges to intestinal function. The analogy between the role of the pectins in the economy of the plant and their physiological value to the human is graphically portrayed.

OFFICE EQUIPMENT & FURNITURE

A. S. Aloe Company

Booth D-17

A. S. Aloe will feature Desert Sand Steeline, a new custom blond grain finish created especially to combine the rugged durability of steel with the warm elegance of fine wood. Presented also will be the new Aloe Compax X-Ray, engineered to grow with your practice. Starting with a 20 MA portable, it builds to a complete 50-90 installation in a few economical steps. See both at booth D-17.

W. D. Allison Company

Booth B-19

Physicians' and surgeons' examining room furniture keynote booth B-19. The New Allison Fleetwood Suite, completely new and modern in basic design and improved mechanical features, is presented. Some of the new features include a recessed front, pedestal design "push button" stirrups that store out of the way—and finishes that will blend or match any decoration.

Burroughs Adding Machine Company

Booth B-23

Burroughs Corporation will exhibit a newly developed style of the Sensimatic Accounting Machine with description features designed specifically for use in a doctor's office. Continuous demonstrations will show how error-proof statements may be prepared rapidly and neatly—ready for mailing by the first of the month with all accounting records completed. Other Burroughs accounting equipment will show how savings in time, effort and costs may be attained in handling figuring work.

Burton Manufacturing Company

Booth D-22

If you have a lighting problem, you won't want to miss the Burton exhibit in booth D-22. Prominent among the many features are two new additions to the Super Power light line: the Super Power Jr., a featherweight floor stand model; and the new Super Power Sr. with the big, king-size reflector for clinics, hospitals or office surgery. Other attractions include a new microscope illuminator slide, Pipette dryer unit, and the new 1953 Uvilux Black Light (Woods Light)—sealed beam 100 watt model.

Wilmot Castle Company

Booth E-11

The Castle exhibit will feature an all-purpose autoclave, the Speed-Clave. Because it provides steam-pressure sterilization, this fast-acting autoclave helps prevent cross-infection with the virus of infectious hepatitis. The Speed-Clave attains operating temperature in eight minutes from a cold start, or four minutes from a hot start. Castle Operating Lights will also be shown.

Gray Manufacturing Company
Booth D-27

Gray Manufacturing Company, originators of the telephone pay station in 1891, will emphasize their newest line of clinical and office dictation equipment, including the complete line of Gray Audograph individual recording and transcribing equipment and the Gray PhonAudograph, for centralizing the transcribing of written communications. Designed to save time for busy doctors and hospital personnel, the Gray systems can be tailor-made to suit individual requirements.

Miles Reproducer Co., Inc.
Booth F-4

Case histories, lectures and dictation may now be recorded at a 60 foot radius with Walkie-Recordall—an 8-lb., self-powered battery-recorder-transcriber. It operates in or out of the closed briefcase, indoors or outdoors, while stationary, walking, riding or flying. The Voice-Activated "Self-Start-Stop" feature automatically starts and stops the recording from microphone or telephone, thus eliminating supervision and the recording of silent periods. While facilities for transcribing are available, transcription may be eliminated due to ease of handling identifiable, compact, indexed recordings without the delay of rewinding. Up to 8 hours of permanent recordings may be accumulated at intervals on an "endless" belt costing 25 cents.

Ritter Company, Inc.
Booth E-7

Of special interest here is a demonstration of Ritter's new "Multi-Level" Tables with motor hydraulic elevation. Other attractions include a universal examination and treatment table for general practice; a table designed specifically for proctology; and an Underwriter-approved, explosion-proof, medium surgery table with unique side rail attachments. Ritter tables can be "tailor made" to suit the needs of most specialties.

Shampaine Company
Booth B-21

The Shampaine Company will feature an outstanding new line of physicians' examining-room furniture, "Steelux with I.D." "I.D." stands for Integrated Design, meaning that the furniture is as compact and efficient as modern manufacture can achieve. The display will have both color and movement. The Shampaine Color Co-Ordinator provides a colorful background, and the examining-table's many automatic and mechanical features invite audience participation. Two popular Specialists' Chairs will also be shown.

PERSONNEL BUREAUS

Continental Medical Bureau
Booth A-22

Continental Medical Bureau, agency specializing in California and the Rocky Mountain area will be in booth A-22. Doctors from this area interested in staff personnel are invited to drop by and review brochures of men who are available. Physicians and surgeons interested in "going west" will also find up-to-date information on available appointments.

The Medical Bureau
Booth A-7

Burneice Larson offers the facilities of The Medical Bureau, an organization serving as counselors in problems of medical and hospital personnel. Recommendations can be made of Diplomates of the American Boards qualified to head their departments, physicians interested in assistantships or further training, general practitioners and industrial physicians, administrators, public health specialists, executive and supervising nurses, scientists, technologists, dietitians, social workers and other professional personnel. Burneice Larson will be in charge of the exhibit.

Woodward Medical Personnel Bureau
Booth C-22

To those doctors seeking to re-locate or who wish to reorganize or augment present staffs, Ann Woodward offers the facilities of the Woodward Medical Personnel Bureau. The details of excellent opportunities for above-average income with good security and fine future potential may be investigated. You may also review the records of some exceptionally well-qualified younger doctors just finishing their formal training as well as diplomates of the specialties qualified to head departments. The complete files for these purposes may be found at booth C-22 where Mrs. Woodward will be available to greet and assist you.

PHARMACEUTICALS

Abbott Laboratories
Booths C-1, 3, 5

To demonstrate Sucaryl, a stable non-caloric sweetener, Abbott will serve coffee and Sucaryl-sweetened cookies. Sucaryl which has no bitter aftertaste permits the patient on a diabetic or weight-reducing diet to enjoy sweetness in cooked, baked, canned and frozen foods. Abbott also will exhibit three other products: Erythrocin, a selective antibiotic of choice against staphylococci, streptococci and pneumococci; Blutene, a new orally-effective agent for treatment and prevention of abnormal uterine bleeding of functional origin; and Selsun, an easy-to-apply liquid preparation for treatment of seborrheic dermatitis of the scalp.

American Hospital Supply Corporation
Booth E-23

Prominent in the American Hospital Supply exhibit will be Travert, Baxter Invert Sugar Solutions for parenteral carbohydrate, giving twice as many calories in the same infusion time; and the new Plexitron Blood Pump, for rapid pressure transfusions with expendable equipment. On display also will be the Anatomical Models, made of life-like flexible plastic; the Venipuncture Training Arm; Dade Blood Typing Serums; Sylvana Serology Antigens; and other laboratory specialties.

The Armour Laboratories
Booth A-24

Acthar, Armour's brand of Adrenocorticotropic Hormone (Corticotropin—ACTH) and its many Council-accepted indications are presented in booth A-24. Representatives will be glad to discuss with you other Armour products, such as Adrenal Cortex Extract, Posterior Pituitary Liquid and Thyroid.

Ayerst, McKenna & Harrison, Ltd.
Booth D-19

Ayerst, McKenna & Harrison take pleasure in extending a cordial invitation to all physicians attending this meeting to visit booth D-19. Literature and information relative to Premarin and Antabuse will be available. Medical representatives will be glad to discuss these and other new developments with you, answer your questions, or just have you relax at the booth.

Bilhuber-Knoll Corp.
Booth E-19

For information on the latest advances in the use of Metrazol therapy, visit the Bilhuber-Knoll exhibit, booth E-19. Your discussion of these recent developments will be welcomed. Information concerning other Bilhuber medicinal chemicals, such as Theocalcin, Dilaudid, and Bromural, will also be available. Representatives will be pleased to discuss these prescription chemicals with you.

George A. Breon & Company
Booth A-19

Lanteen Medical Laboratories, Inc., extends a cordial invitation to visit booth A-19. Representatives will be on hand to discuss these well known gynecic specialties.

Burroughs Wellcome & Co. (U.S.A.) Inc.
Booth E-32

The Burroughs Wellcome exhibit will feature the following products: Aerosporin Sulfate, an antibiotic bactericidal to many gram-negative bacilli, including pseudomonas aeruginosa (B. pyocyaneus); Hexameton Chloride, an autonomic ganglion blocking agent for treatment of hypertension; Digoxin, a pure, rapidly eliminated, crystalline glycoside; intermediate acting Globin Insulin, a clear solution requiring no shaking; and Anectine Chloride brand Succinylcholine Chloride, a short acting skeletal muscle relaxant which permits minute-to-minute control for long or short surgical procedures.

The Central Pharmacal Company
Booth D-25

Interest at the Central Pharmacal exhibit will center on the three dosage forms of Trisulfazine—Palatabs, Suspension and Tablets. The Trisulfazine products represent specialties "born of Central's original research" and were among the first ones to be accepted by the Council.

Chilean Iodine Educational Bureau, Inc.
Booth D-7

The Chilean Iodine Educational booth, D-7, points out the values of iodine and its compounds and preparations in the fields of medicine, surgery, nutrition and sanitation. Samples of official and Council-accepted drugs containing iodine will be displayed. Reprints of various papers and other facilities of the Bureau will be offered at the exhibit.

Church & Dwight Co., Inc.
Booth B-15

In booth B-15, Church & Dwight Co., Inc., will exhibit its well known Bicarbonate of Soda, Arm & Hammer and Cow Brands. While these brands of U. S. P. quality are used extensively in medical practice, this year's Clinical exhibit will emphasize their value in cleaning the teeth. For this purpose, they are acceptable to the Council on Dental Therapeutics of the Ameriman Dental Association. Colorful Dental Health booklets and handy pocket-sized samples suitable for traveling may be had at the booth.

Ciba Pharmaceutical Products, Inc.
Booth E-26

Ciba in booth E-26 will feature an interesting animated exhibit, using carved plastic coordinated with sound to illustrate the mechanism of maintaining both normal and pathological phases of blood pressure. The effects of neurogenic and humoral substances elaborated by the brain and kidney will be demonstrated and the influence of pheochromocytoma on blood pressure, diagnosis and treatment will be shown. The role of Regitine, Apresoline and Esomid, successfully used in the diagnosis and treatment of hypertension, will be emphasized.

Doak Pharmacal Co., Inc.
Booth A-20

Doak Pharmacal Co., Inc., pioneers in dermatological products for over a quarter century, will feature two specialties: Tersus, an original soapless detergent for skin and scalp, particularly useful in oily conditions; and Salinidol, containing 5% Salicylanilide N.F. in a greaseless base, indicated in the treatment of tinea capitis.

Durex Products, Incorporated
Booth F-1

Durex Products will show a large variety of vaginal diaphragms and cervical occlusive devices. These will include the Coil Spring, Mensinga, Dumas, Bowbend (which requires no inserter), Duraflex (matrisalus type), the Flat Rim, Mizpah and Aluminum Cervical Caps. A Sponge Rubber Teaching Model, to demonstrate diaphragm placement; and Sets packaged in plastic containers, comprising a diaphragm and tubes of Lactikol Jelly and Creme and an Inserter, will also be shown.

Eaton Laboratories, Inc.
Booth B-4

Latest clinical findings on Furadantin N.N.R. will be shown at the Eaton booth. This new antibacterial nitrofuran is producing excellent results in refractory infections of the urinary tract. Chemically related to Furacin, it is the first of the family of nitrofurans to be made available for systemic administration. Included among its advantages are absence of crystalluria, abdominal distress and pruritus. Other Council-accepted products on display will include various dosage forms of Furacin and Lorophyn.

Fellows Medical Mfg. Co., Inc.
Booth D-2

Chloral Hydrate, a relatively safe, time-tested sedative is shown in convenient capsule form. Fellows have successfully encapsulated chloral hydrate (in two strengths), permitting the effective use of this important drug for day-time sedation and hypnosis. Fellows Chloral Hydrate Capsules (7½ grains) produce a normal type of sleep usually without depressant after-effects. Representatives at the booth will be pleased to discuss this important addition to the field of sedative and hypnotic therapy.

Geigy Pharmaceuticals
Booth B-22

Tromexan, an oral anticoagulant noted for its fast action and added safety factor in the treatment of thromboembolic disorders, is a featured attraction at the Geigy exhibit. Representatives at the booth will welcome your questions about this and other therapeutic developments.

The Harrower Laboratory Inc.
Booth A-17

The display of the Harrower Laboratory, Inc., will be devoted to Mucotin, available in tablet or liquid form for peptic ulcer therapy. Mucotin combines the protective coating characteristics of gastric mucin with the antacid properties of aluminum hydroxide and magnesium trisilicate. A feature of the Mucotin exhibit is a giant size model of a gastroscope in position for observation of a gastric ulcer.

Holland-Rantos Company, Inc.
Booth E-1

Physicians interested in medical contraception are invited to inspect the complete H-R line of ethical contraceptive specialties in booth E-1: Koromex diaphragms (standard coil spring, Mensinga, Matrisalus, and cervical caps); Koromex Jelly and Cream; and Sets. Holland-Rantos representatives will be pleased to have you register for their latest literature.

Lederle Laboratories Division
Booth B-2

You are cordially invited to visit booth B-2 where you will find representatives prepared to give you the latest information on Lederle products.

Eli Lilly and Company
Booths B-10, 12

Antibiotics, cardiac drugs, decongestants, antihistamines, antithyroid drugs, and aids for the diabetic are featured in the Lilly display. Lilly salesmen will welcome your questions about these and other recent therapeutic developments.

Mallinckrodt Chemical Works
Booth E-12

Representatives in attendance at the Mallinckrodt exhibit will welcome an opportunity to discuss the products on display, or any Council-accepted chemical manufactured by the company.

McNeil Laboratories, Inc.
Booth C-17

McNeil Laboratories extends a cordial invitation to members of the American Medical Association to visit booth C-17. On display will be Butisol Sodium, an "intermediate" sedative; Syndrox Hydrochloride; and other Council-accepted products.

Merck & Co., Inc.
Booth C-13

Hydrocortone and Cortone will be featured in the Merck booth. Conditions in which these products have proven of service include: rheumatoid arthritis; intractable bronchial asthma; acute rheumatic fever; inflammatory eye diseases; and many dermatologic conditions, both allergic and non-allergic. Hydrocortone Acetate is of particular value in relieving the pain and stiffness of individual rheumatoid and osteoarthritic joints when given by intra-articular injection. Other featured products are: Mephyton, an antidote to certain anticoagulant-induced hypothrombinemia; and Nalline, the first specific narcotic antidote.

The Wm. S. Merrell Company
Booth A-3

Tace, a new drug for the hormonal containment of prostatic carcinoma, highlights the Merrell exhibit. Tace (chlorotrianisene) possesses certain peculiar attributes not common to other estrogens. In the dosages used in experimental studies, it apparently induced less pituitary or adrenal hyperplasia than other estrogens. This one fact—lack of apparent effect upon the pituitary-adrenal—has caused considerable interest among urologists treating carcinoma of the prostate with estrogens.

Monsanto Chemical Company
Booth B-13

The Monsanto exhibit will feature the use of saccharin, a powerful non-nutritive sweetener manufactured by the company for diabetics and others on sugar-free diets. Monsanto's popular saccharin booklet, containing 70 recipes, ranging from salad dressings to cakes, will be offered at the booth.

Nepera Chemical Co., Inc.
Booth E-16

Mandelamine, a urinary antiseptic, and Neohetramine, a highly effective antihistamine, will merit your attention in booth E-16. The bacteriostatic and bactericidal action of Mandelamine in urinary tract infections is of approximately the same order as the sulfonamide drugs or streptomycin. Mandelamine rarely causes side effects. Because of Neohetramine's exceptional tolerance and virtual lack of sedation, it has a wide range of therapeutic dosage.

Organon, Inc.
Booth E-17

Organon will feature the outstanding pharmaceutical development of Bifacton—Vitamin B_{12} with intrinsic factor concentrate. Bifacton represents the most highly purified and potent oral anti-pernicious-anemia preparation available to the medical profession. In Bifacton, the elusive intrinsic factor has been captured in remarkably concentrated form and combined and bound with vitamin B_{12}. The Bifacton story is one which will interest all physicians who employ oral vitamin B_{12} therapy. Visit the Organon booth for an interesting and timely display.

Ortho Pharmaceutical Corporation
Booths D-21, F-19

The physician's responsibility in marriage counseling is the theme of one of Ortho's exhibits. This dramatic and provocative subject should be of interest to physicians. Ortho's other exhibit will be concerned with diagnostic products, such as Rh-Hr anti-sera, which have been received by many laboratories and blood banks.

Parke, Davis & Company
Booth A-13

A cordial welcome awaits you at the Parke-Davis booth. Members of the P-D medical service staff will be on hand to greet you and to discuss their well-known specialties.

Chas. Pfizer & Co., Inc.
Booth C-11

Well-informed representatives in booth C-11 will be happy to supply you with information and answer your questions on Pfizer products. The newest dosage forms of Terramycin will be the featured attractions.

Pharmacia Laboratories, Inc.
Booth F-13

Pharmacia Laboratories, Inc., will show its Council-accepted product, Azulfidine, a new sulfa drug for the treatment of ulcerative colitis. Azulfidine is an Azo compound of salicylic acid and sulfapyridine. Literature and reprints of outstanding papers may be had upon request.

Riker Laboratories, Inc.
Booth E-28

Riker Laboratories, Inc., presents Veriloid (Brand of Alkavervir) Intramuscular and Intravenous Solutions. Veriloid, a powerful hypotensive agent, provides means of reducing the blood pressure in a matter of minutes. Its influence is positive, dependable and profound. It is indicated whenever the symptoms of hypertension must be controlled rapidly, as in hypertensive crisis, malignant hypertension, toxemia of pregnancy, pre-eclampsia and eclampsia. Veriloid solutions reduce blood pressure by central action.

A. H. Robins Company, Inc.
Booth C-4

The A. H. Robins exhibit features Robalate, N.N.R., antacid-demulcent, indicated in peptic ulcer therapy and hyperacidity. The pharmaceutically elegant tablets, each containing 0.5 gm. dihydroxy aluminum aminoacetate, are notable for exceptional palatability.

Rystan Company, Inc.
Booth E-15

Rystan features Council-accepted Chloresium Ointment and Chloresium Solution (Plain), containing purified, non-toxic water-soluble derivatives of chlorophyll. In the topical treatment of wounds, burns, ulcers and dermatoses, these therapeutic chlorophyll preparations promote the normal growth of healthy granulation tissue, relieve itching and irritation, and deodorize malodorous lesions. Reprints of published clinical and laboratory studies on Chloresium therapy are available; and representatives will be pleased to discuss specific applications of these preparations.

Sandoz Pharmaceuticals
Booth E-31

With pleasure and pride, Sandoz Pharmaceuticals invite you to visit their scientific type exhibit in booth E-31. Representatives will be pleased to welcome you.

Schering Corporation
Booth D-1

Members of the American Medical Association and their guests are cordially invited to visit the Schering exhibit where new therapeutic developments will be featured. Schering representatives will be present to welcome you and to discuss with you these products of their manufacture.

Julius Schmid, Inc.
Booth D-6

Julius Schmid, Inc. have prepared an interesting and informative exhibit on their products—Ramses Flexible Cushioned Diaphragm, Ramses Vaginal Jelly and other Ramses Gynecological products, all of which enjoy A. M. A. Council acceptance. Introduced to the medical profession more than three decades ago, the Ramses line today is better than ever because of the firm's continuous research and improvement.

G. D. Searle & Co.
Booth B-14

You are cordially invited to visit booth B-14 where members of Searle's medical and medical service departments will be happy to answer your questions regarding Searle Products of Research. Especially presented will be new uses for Dramamine and Banthine. Other featured items will include Searle Aminophyllin, Alidase, Metamucil, and Diodoquin.

Sharp & Dohme, Inc.
Booth E-8

Research data relative to oral penicillin therapy is featured by Sharp & Dohme, Division of Merck & Co., Inc. The exhibit endeavors to justify reliance on oral penicillin for the therapy of the majority of penicillin treatable infections, excluding fulminating diseases requiring hospitalization. Expertly trained personnel will be present to discuss these observations.

Smith, Kline & French Laboratories
Booth D-20

You are cordially invited to visit the SKF booth, D-20. Specially trained representatives will be pleased to tell you about their Council-accepted and exempted products and to answer any questions you may have concerning the possible use of these items in your practice.

E. R. Squibb & Sons
Booths E-25, 27, 29

New information on Squibb Products and new brochures useful to the general practitioner will be presented at booths E-25, E-27 and E-29. As in former years, your Squibb representative invites you to visit the Squibb booth where a comfortable lounge will be provided.

R. J. Strasenburgh Co.
Booth D-8

Mental depression may give rise to influences and have effects which extend far beyond the individual patient. As an accepted tool for further exploration of this difficult problem and as a recognized aid in treatment, Raphetamine Phosphate, brand of racemic amphetamine phosphate monobasic, will be featured at the R. J. Strasenburgh exhibit.

Strong Cobb & Company, Inc.
Booth D-3

Ampins (automatic ampul injectors) consist of *ampul, syringe and needle—all in one pre-sterilized* unit, ready for instant use. Also of interest in booth D-3 will be the new aluminum Emergency Kit, containing many of the commonly used emergency drugs, including morphine and codeine. The administration of parenteral injections automatically is simplified with this new disposable unit.

U. S. Vitamin Corporation
Booth C-8

Here you will see the "oil-in-water" demonstration of natural vitamin A oil in water solution—a vitamin technical achievement pioneered by the U. S. Vitamin Corporation Research Laboratories. While at the exhibit, taste for yourself a new and different sodium-free salt substitute, Co-Salt, which actually tastes like salt, looks like salt and sprinkles like salt—a boon to your patients on restricted sodium intake.

Varick Pharmacal Co., Inc.
Booth E-30

E. Fougera and Company and its division, Varick Pharmacal Company, invite physicians to visit booth E-30 and discuss with professional service representatives new preparations of importance to everyday practice. Descriptive literature and samples of all products *will be available.*

Walgreen Drug Stores
Booth B-11

Prescriptions grow in importance every day as medical science discovers new drugs. Well aware of this growing importance, Walgreen's will feature the Walgreen Pharmacist, who keeps abreast of these new scientific developments as they occur. His training and experience—combined with up-to-the-minute pharmacy knowledge—assures a uniformly dependable prescription service. Professional representatives at the exhibit will be happy to serve in every way possible—to "compound" a happy meeting for you.

Wallace & Tiernan Products, Inc.
Booth B-20

Featured items at the Wallace & Tiernan exhibit will be: Desenex, a well-known undecylenate preparation for superficial fungous infections; Salundek, for tinea capitis; Sotradecol, for effective sclerotherapy in the injection treatment of varicose veins and internal *hemorrhoids;* Azochloramid, a time-tested chlorine antiseptic; and Monomestrol, an orally effective, well-tolerated synthetic estrogen.

Warner-Chilcott Laboratories
Booth E-24

Two cardiovascular agents will be featured at the Warner-Chilcott booth. Medical representatives and research personnel will welcome an opportunity to discuss Methium, to lower blood pressure; and Peritrate, to prevent attacks in angina pectoris.

White Laboratories, Inc.
Booth A-21

Gitaligin, described as a digitalis preparation of choice will be on display at booth A-21. White's representatives will appreciate the opportunity to discuss with you the clinical background and therapeutic merit of this and their other outstanding products.

Wilson Laboratories
Booth B-5

Purified Corticotropin-Gel Wilson—the only Corticotropin-Gel accepted by the Council on *Pharmacy* and Chemistry of the American Medical Association—is the featured product here. Representative at the booth will tell you why Purified Corticotropin-Gel Wilson and Corticotropin Solution Wilson exert the full therapeutic spectrum with recognized notable safety at a *cost of less than 3½* cents per unit of clinical activity.

Winthrop-Stearns, Inc.
Booth A-25

Winthrop-Stearns, Inc., will feature large, three dimensional plastic, transparent models as well as translucent anatomic drawings in full color by Leon Schlossberg of Johns Hopkins University. These include: The Circulatory System (with particular reference to shock); the Biliary Duct System (with reference to oral cholecystography and direct cholangiography); The Path of Pain in the Central Nervous System; *the Fetus at* Term; the Gastro-Intestinal Tract; and the Bronchial Tree (with particular reference to asthma).

Wisconsin Alumni Research Foundation
Booth F-12

Continued research on a new development in the anticoagulant field will be shown at the Wisconsin Alumni Research exhibit. Clinical investigation has shown its value in thrombotic emergency and in surgery. The results of further investigation of the action of aspirin, as well as its possible action in the hypothalamus-pituitary-adrenal chain, are also discussed at the exhibit. Reprints on some of this work are available.

Wyeth Laboratories
Booth B-1

Wyeth will exhibit Plavolex, 6% solution of dextran, a highly efficient Plasma Volume Expander, for use in shock where the circulating blood volume is decreased, as following traumatic injury, burns or during surgery. Plavolex eliminates the danger of viral hepatitis and is ready for immediate use. Also featured will be Bicillin Oral Suspension, palatable, stable, ready-to-use; and Bicillin Injection giving two-week blood levels on a single injection, effective in treatment and prophylaxis.

PHYSICAL MEDICINE AND REHABILITATION

The Burdick Corporation
Booth B-8

Celebrating their 40th anniversary the Burdick Corporation in B-8 will present their line of physical medical equipment. A feature of special interest will be their EK-2 Direct-Recording Electrocardiograph.

The DeVilbiss Company
Booth C-12

The DeVilbiss Company of Somerset, Pennsylvania *welcomes your visit to its exhibit in* booth C-12. Recently developed professional and prescription types of atomizers, nebulizers and vaporizers will merit special attention.

H. G. Fischer & Co.
Booth B-16

Latest models of Modern X-ray, F. C. C.-approved and Council-accepted physical medicine and rehabilitation equipment keynote the H. G. Fischer display. Representatives in attendance will welcome an opportunity to give demonstrations and quote today's low prices. Your visit will be appreciated.

(Continued on advertising page 74)

REPORTS OF OFFICERS

REPORT OF THE BOARD OF TRUSTEES

To the Members of the House of Delegates of the American Medical Association:

The following annual report of the Board of Trustees is respectfully submitted.

Report on Matters Referred by House of Delegates

Resolutions on Portrayal of Physicians in Television and Radio Advertising.—In conformity with the recommendation of the Reference Committee on Miscellaneous Business, adopted by the House of Delegates in June, 1953, the Board of Trustees referred the Resolutions on Portrayal of Physicians in Television and Radio Advertising and the recommendation of the Reference Committee to the Department of Public Relations in order that a meeting might be arranged to which mutually interested parties in the radio and television industries would be invited.

A number of conferences have been held with the National Association of Radio and Television Broadcasters, and the following excerpt from the Television Code was discussed:

> When dramatized advertising material involves statements by doctors, dentists, nurses or other professional people, the material should be presented by members of such profession reciting actual experience, or it should be made apparent from the presentation itself that the portrayal is dramatized.

The NARTB has indicated complete willingness to cooperate with the American Medical Association in every possible way in an effort to eliminate, or, at least, to curtail, the improper portrayal of physicians in television and radio. If in the future an individual physician notes any portion of a television or radio program that seems to be in conflict with the code quoted above, he should communicate with the headquarters office, which will in turn confer with the NARTB.

Attention is called to the editorial published in the June 27, 1953, issue of The Journal mentioning the legitimate complaints of physicians regarding such advertising and the action of the House in this regard.

Resolution on Derogatory Article.—A Resolution on Derogatory Article, introduced by Dr. John P. Culpepper of Mississippi, was adopted by the House in June, 1953, and referred to the Board of Trustees "for implementation." The resolution in question protested the misinformation and "libelous accusations" contained in an article entitled "The Doctor Cartel, an Urgent Problem," which appeared in the May, 1953, issue of "Home Life," a nationally circulated magazine published by the Southern Baptist Convention.

In response to the resolution, the Board of Trustees assisted in the preparation of an article entitled "The Truth About Our Doctor Supply" by Mr. Ira Porter, which was published in the September, 1953, issue of the Southern Baptist Convention periodical. Mr. Porter is the executive vice-president of the Louisville Trust Company, a member of the Deer Park Baptist Church in Louisville, president of the Board of Directors of Blue Cross, a trustee of the Kentucky Baptist Hospital, and a trustee of Georgetown College.

Resolution on Remarks of Commander of American Legion.—A resolution presented by the Reference Committee on Legislation and Public Relations as a substitute for one introduced by Dr. Richard L. Meiling, Ohio, which was withdrawn after introduction, and which had to do with remarks made before the House of Delegates in June, 1953, by Mr. Louis K. Gough, Commander of the American Legion, provided that "the true facts concerning equalization pay for physicians, dentists, and veterinarians serving in the Armed Forces and the U. S. Public Health Service" be made public. The substitute resolution was adopted by the House, and was referred by the Board of Trustees to the Editor of The Journal. An editorial incorporating factual data concerning "equalization pay" was published in The Journal for Oct. 17, 1953.

Resolutions on Compact of Western States for Higher Education (S. 1515).—At the June, 1953, meeting of the House of Delegates resolutions were introduced by Dr. Raymond F. Peterson of Montana urging the House to endorse S. 1515, 83rd Congress, and to encourage its passage. The bill authorized the establishment of a Western Interstate Commission for Higher Education, which would in turn be authorized to stimulate the establishment and maintenance of various courses including medicine, dentistry, etc., by certain western states.

The Reference Committee on Legislation and Public Relations recommended that the resolutions be submitted to the Committee on Legislation for study and necessary action, and they were so referred by the Board of Trustees. The first meeting of the Committee on Legislation following the referral was held on Sept. 26, 1953. Prior to that meeting the bill in question was enacted into law (Public Law 226, 83rd Congress, approved Aug. 8, 1953).

Referral of Resolutions.—The following resolutions, adopted by the House of Delegates in June, were referred by the Board of Trustees for study and report to the councils, committees, and individuals indicated:

Resolutions on Advertising of Medical Products, introduced by Dr. Wendell C. Stover of Indiana, to the Editor of The Journal;

Resolution on Proposed 23rd Amendment to Constitution of United States (H. J. Res. 123), introduced by Dr. Harlan English, of Illinois, to the Committee on Legislation;

Resolution on Clarification of Section 5 of *Principles of Medical Ethics*, introduced by Dr. Millard D. Hill of North Carolina, to the Council on Constitution and Bylaws;

Resolution on "Doctor-Draft" Law, introduced by Dr. A. H. Aaron of New York, to the Council on National Emergency Medical Service;

Resolution on Amendment of Federal Narcotic Act to Provide for Dispensing of Codeine Mixtures and Compounds on Oral Prescription, introduced by Dr. Raymond M. McKeown of Oregon, to the Council on Pharmacy and Chemistry;

Resolution on Regulation of Nursing in Veterans' Hospitals, introduced by Dr. James Stevenson of Oklahoma, to Dr. Thomas P. Murdock, representative of the association on the Joint Commission for Improvement of Care of the Patient;

Resolution on Crippled Children's Programs, introduced by Dr. Cleon A. Nafe of Indiana, to the Washington Office of the Association; and

Resolutions on Annual Medical Progress Day, introduced by Dr. R. J. Azzari of New York, to the Department of Public Relations.

Final reports have not yet been received on the above-mentioned resolutions, but it is hoped they will be available in time to be included in a supplementary report of the Board of Trustees to the House of Delegates.

Privilege Tax by Hospitals

The action of the House of Delegates in December, 1952, in condemning the practice of requiring all physicians using a hospital to pay to it a certain percentage of their fees received from hospitalized patients was transmitted to the American Hospital Association. In a communication from the American Hospital Association it is indicated that its board of trustees concurred in the action of the House of Delegates that the American Hospital Association went on record on June 22, 1947, as being opposed to the practice of assessing members of medical staffs for the day-to-day operation of the hospital; and that its membership has been so advised.

Attendance at Meetings

It is apparent from a review of the agendas of the Board of Trustees that requests for representatives at meetings and on committees of various national organizations are increasing in number. These invitations have in most instances been accepted, and if at all possible members of the Board of Trustees or general officers have been appointed.

Also, due to the increasing number of proposals of importance to the medical profession that have been introduced into the Congress during the past year, as well as studies being conducted by special committees of committees of the Senate or the House of Representatives, the activity of the Association in legislative matters has correspondingly increased. Inasmuch as the Board of Trustees decided a short time ago that either a trustee or general officer must be in attendance at congressional hearings to present the official position of the Association, the demands on the time of the trustees and officers have multiplied. Details concerned with the appearance of witnesses before congressional committees will be found in the report of the Committee on Legislation.

San Francisco Meeting

The San Francisco Medical Society nominated Dr. Edmund J. Morrissey as General Chairman of the Local Committee on Arrangements for the San Francisco Meeting to be held June 21 to 25, 1954, and the Board of Trustees unanimously confirmed the nomination.

Report of Assistant to the General Manager: Department of Public Relations

The public relations program of the American Medical Association in 1953, the first full year following termination of the National Education Campaign, was designed to emphasize the positive, constructive activities of the Association aimed at serving both the profession and the public. With an expanded staff, the Public Relations Department was able to stress the affirmative by continuing and improving its existing services and by initiating several new projects and activities. The general objectives were as follows:

1. To increase public understanding and support of the medical profession by keeping the people well informed on the policies, objectives, and positive programs of the American Medical Association.
2. To increase professional understanding and support of the American Medical Association by making physician members better acquainted with the objectives, activities, and available services of the Association.
3. To improve physician-patient relationships by supplying physicians with practical ideas and suggestions for better public relations on a personal, individual basis in the office, home, hospital, or clinic.
4. To encourage and assist the state and county medical societies in the maximum development of constructive, effective public relations programs at the grass roots level.

To promote the maximum expansion and improvement of all sound programs to solve the economic problems caused by illness and to make medical service more widely distributed and more readily available.

ADVISORY COMMITTEE

During 1953 four meetings were held by the Advisory Committee to the Director of the Department of Public Relations, which is composed of nine executive secretaries and public relations directors of constituent state medical associations. The advice and suggestions given by this committee to the Director have been of great value in formulating programs and projects that will best meet the public relations needs of the state and county medical societies and best serve the national public relations of the American Medical Association.

The present members of this Advisory Committee are as follows:

Mr. John Hunton, Chairman (1952-1953)
Executive Secretary, California Medical Association
Mr. Harvey Sethman
Executive Secretary, Colorado State Medical Society
Mr. Charles Nelson, Chairman (1953-1954)
Executive Secretary, Ohio State Medical Association
Mr. Hugh Brenneman
Public Relations Counsel, Michigan State Medical Society
Mr. Merrill C. Smith
Executive Secretary, Nebraska State Medical Association
Mr. James T. Barnes
Executive Secretary, Medical Society of the State of North Carolina
Dr. John F. Conlin
Director of Medical Information and Education, Massachusetts Medical Society
Mr. Lester Perry
Executive Secretary, Medical Society of the State of Pennsylvania
Mr. Rowland B. Kennedy
Executive Secretary, Mississippi State Medical Association

PRESS RELATIONS

The rapidly growing interest of the American press in medical news continued to mount and reached a new high during 1953. This was clearly demonstrated at the annual meeting in New York in June, where the registration of 185 reporters and writers went far beyond the previous record mark of 110 at the 1952 annual meeting in Chicago. Many newspapers that never before had assigned reporters to an American Medical Association meeting were represented by staff writers.

Following the New York annual meeting an unusual and highly complimentary article was carried by *Editor & Publisher* magazine, the "Bible" of American journalism, on how the American Medical Association handles press relations at a big medical meeting. One science writer was quoted as saying that "the A. M. A. does the best job in the world."

The same kind of press service, just as important but on a smaller scale, was provided at the Denver clinical meeting and again is being rendered at the St. Louis clinical meeting. Major emphasis at both the annual and clinical meetings is placed on the scientific progress of medicine, with special attention going to policy actions of the House of Delegates.

Weekly News Release.—Throughout the year medical news was widely disseminated by means of the weekly news release, which now goes to more than 2,000 newspapers, magazines, wire services, and science writers. In response to a recent survey, almost all of those on the mailing list requested continuation of the service, and many editors volunteered laudatory comments. In addition, the press section during the year put out numerous special releases on organizational developments, and it was called on constantly by the press for information and special materials concerning medicine and public health.

American Medical Association Conferences.—The press section provided extensive advance publicity and press room coverage for such special annual meetings as the Congress on Industrial Health, the Congress on Medical Education and Licensure, the National Conference on Rural Health, and the biennial National Conference on Physicians and Schools. All of these meetings attracted wider press coverage than ever before.

Special Projects.—Press coverage for the special meeting of the House of Delegates in Washington, D. C., March 13, 1953, was handled by key men of the department, with the assistance of the Washington Office staff. The press section of the department also assisted the World Medical Association by preparing news releases on 16 of the papers delivered at the London meeting in August.

MAGAZINE RELATIONS

The American Medical Association in 1953 worked more closely than ever before with magazine editors and free lance writers on articles pertaining to medicine and health. The number of requests for suggestions or help increased to approximately 150. Articles written following such contacts appeared in 35 national magazines of mass circulation, including *Collier's, The Saturday Evening Post, Redbook, Life, Look, Better Homes and Gardens, Reader's Digest, McCall's, Woman's Home Companion, Pageant, Coronet,* and *Farm Journal.* Among the organizational magazines represented were *The Lion, Rotarian, Kiwanian,* and *American Legion Monthly.* Although the majority of the articles were of a health educational nature, many told a positive story about the socioeconomic activities of the medical profession.

Additional Liaison.—Liaison was continued with officers and members of the Society of Magazine Writers. Arrangements also were completed with the Druggist Promotion Service to check all medical copy going into *Beauty and Health,* a new free distribution magazine being issued five times a year through drug stores.

PUBLIC RELATIONS CONFERENCES

Two medical public relations meetings were held in 1953 as a service to state and county medical societies in developing their public relations programs. In September nearly 300 men and women who work with the day-to-day operation of medical public relations programs attended the second Public Relations Institute in Chicago. "New Ways to Better PR" was the theme of the two-day meeting, which provided a practical, short course in public relations technique and methods and also featured a visual display of public relations projects. A digest of the institute proceedings and discussions was distributed to state and county medical society executive secretaries and public relations personnel.

The sixth Public Relations Conference is scheduled for Nov. 30 at the Jefferson Hotel in St. Louis just prior to the Clinical Session. More than 400 physicians and lay executives are expected to attend the conference, designed to outline plans for the 1954 public relations program of the American Medical Association and to provide guidance for the physicians in charge of public relations programs for state and county medical societies.

SERVICES TO COUNCILS, BUREAUS, AND COMMITTEES

During 1953 the Department of Public Relations was able to increase the amount and variety of its public relations services to the Association's councils, bureaus, committees, and departments. These activities, which included special publicity, radio and television arrangements, editorial assistance, and public relations counsel, were aimed at giving both the profession and the public a better knowledge of the year-round, constructive work of the American Medical Association.

Annual Conferences.—In addition to the regular news coverage mentioned under Press Relations, the several American Medical Association conferences were publicized by means of round-up stories in THE JOURNAL, feature stories in *Today's Health,* and other materials supplied to special magazines and house organs. In cooperation with the Bureau of Health Education, the Public Relations Department also arranged 12 radio and television programs at the Industrial Health and Medical Education congresses. As a result of the Department's extensive advance arrangements for the National Rural Health Conference in Roanoke, Va., an estimated 500 network and local radio programs featured or mentioned that meeting.

Veterans Administration Medical Care.—In cooperation with the Committee on Federal Medical Services of the Council on Medical Service, the public relations staff prepared an information kit including a factbook, speeches and other materials on the issue of federal medical care for veterans with non-service-connected disabilities.

Physician Placement.—In cooperation with the Council on Medical Service and the Council on Rural Health, the staff helped in the preparation of a pamphlet entitled "A Doctor for Your Community," now being distributed to aid smaller communities seeking physicians.

Rural Health Digest.—In cooperation with the Council on Rural Health, a staff member prepared a 56-page booklet digest of the Roanoke Conference on Rural Health. The Council distributed it to state and county medical societies and leading farm organizations.

Medical Education.—In cooperation with the Council on Medical Education and Hospitals, a Factbook on Medical Education, based on the 52nd Annual Report on Medical Education in the United States was prepared and distributed to county and state medical societies.

DAILY BULLETIN

The Public Relations Department staff was responsible for the publication of a Daily Bulletin during the New York annual meeting and will do the same at the St. Louis clinical meeting. In New York, 8,000 copies were distributed each day to convention registrants at the Grand Central Palace and various leading hotels. In St. Louis, as at the Denver clinical meeting in 1952, 3,000 copies will be distributed on each day of issue.

"YOUR DOCTOR" FILM

A 16 mm. version of the RKO-Radio film "Your Doctor" was made available in 1953 for showing to schools, churches, and club groups through the booking facilities of Modern Talking Picture Service. Approximately 1,200 individual bookings were made, and the film was shown 2,000 times to a total audience of 130,000 persons. This project was conducted jointly with the Committee on Medical Motion Pictures.

TELEVISION FILMS

The Public Relations Department cooperated with the Bureau of Health Education and the Committee on Medical Motion Pictures in providing a new series of films to be shown on local television stations by state and county medical societies. The Department produced an announcement brochure and kits of promotional material to implement the use of the television films.

"Operation Herbert," a half-hour play starring Jackie Kelk, and a series of six five-minute shorts called "What to Do" were produced under the supervision of the Bureau of Health Education. The American Medical Association obtained television rights to "A Citizen Participates," a new, independently produced 16 mm. film that tells how an individual citizen sparks a community campaign to get a doctor. In September the "Your Doctor" film also was made available for use on television.

The Department and the Bureau of Health Education also worked with Mr. William Hart in coordinating the production of a 26-week series of five-minute spots entitled "M.D." These television films, each of which gives advice on a particular medical problem, were shown on the Dave Garroway program over the NBC television network each Monday morning from June to January.

PROMOTION OF RADIO AND TELEVISION SHOWS

The Public Relations Department represented the American Medical Association in promoting the "March of Medicine" television series sponsored by Smith, Kline and French Laboratories. Four programs are on the 1953 schedule, each telling an accurate and interesting story of medical progress. One was presented in June; others are scheduled for October, November, and December. Special releases and a packet of promotional suggestions for use by state and county medical societies in areas where the shows were telecast were prepared. The Department also worked with the Secretary's Office and the Bureau of Health Education in evaluating story ideas and checking scripts for the series.

The Department also helped to promote "Medicine U.S.A.," a new series of network radio programs presented by the Bureau of Health Education. It informed the state and county medical societies of the new series, issued special stories to the press and to Association publications, and offered suggestions for local publicity in cities where the programs were being carried.

A. M. A. NEWS NOTES

Now in its second year of publication, the monthly clip sheet, "A. M. A. News Notes," is provided as a news service for state and county medical society publications. It contains short, timely news items concerning the activities and services of the Association.

PR DOCTOR

This eight-page public relations news letter with accompanying Exchange packet was issued bimonthly during 1953. In addition, a special Woman's Auxiliary issue was prepared and mailed late in the fall. A number of special enclosures were distributed along with the news letter during the year, including an index of the 1952 PR Doctor, a public relations checklist to help societies evaluate past public relations activities and plan 1953 goals, reprints of several important news stories, and two public relations survey reports.

Public Relations Survey.—A detailed two-page questionnaire requesting information about medical society dues, budgets, personnel, salaries, and activities was mailed in February, 1953, to the entire PR Doctor mailing list. Over 700 responses were received and tabulated. The first survey report distributed in PR Doctor covered dues, budgets, and personnel, and the second gave a résumé of medical society public relations activities.

LITERATURE PREPARATION, PROMOTION, AND DISTRIBUTION

The Public Relations Department distributed more than 2 million pamphlets, booklets and reprints during 1953. These materials were distributed without cost to medical societies, physicians, auxiliary medical personnel, and the general public.

"℞ PR."—A new booklet, "℞ PR," containing two manuals bound into one volume, was completed and mailed to all American Medical Association members in late September. Prepared as a companion piece to "Winning Ways With Patients," it provides physicians with up-to-date information on the human side of medical public relations and on the business aspects of medical practice. Material for the booklet was gathered from a large number of PR-minded physicians, professional management experts, and medical society executives.

"It's Your A. M. A."—"It's Your A. M. A." is a light but thorough inventory of the benefits and services available to physicians through membership in the American Medical Association. It was distributed to all members in mid-October.

"Labor, Politics, and Health."—Based on an article and editorial that appeared in THE JOURNAL late in 1952, the eight-page pamphlet "Labor, Politics, and Health" was produced by the PR Department to refute misinformation presented in a CIO Political Action Committee brochure entitled "'52 Facts on Politics." More than 7,000 copies were distributed to state and county medical societies for local use.

"Guide to Services."—A revision of the American Medical Association "Guide to Services," originally prepared in 1951, was made early in 1953. The new booklet was sent to medical societies, public health officials, and a special public relations list of allied personnel.

"Practice-ly Yours."—A short playlet on public relations in the doctor's office, "Practice-ly Yours," was written for presentation in December, 1952, at the Medical Public Relations Conference in Denver. Since then, the Department has received more than 200 requests, mainly from medical assistants and office nurses, for copies and permission to reproduce the playlet.

Report to the Nation.—The 1953 inaugural address of the President of the Association, "American Medicine's Report to the Nation," was reproduced in attractive pamphlet form, and 10,000 copies were printed for distribution to the state and county medical societies, editors of medical journals, newspaper editorial writers, and others requesting copies.

Continued Distribution.—The Department continued to make extensive distribution of previously published literature such as "Your Money's Worth in Health," "Winning Ways with Patients," "The AMAzing Story," "A Doctor for You," "Which Way America?", and "ILO Spells Danger."

Reprints.—In connection with PR Doctor and other special projects, the Department prepared approximately 75 reprints of newspaper and magazine articles during the year.

Field Service

In 1953 field service emphasis was on county medical societies. Out of a total of 84 visits, 43 were to component societies. The field service visits provided a valuable interchange of ideas and information between the state and county societies and the American Medical Association. Department staff members spoke at society meetings, provided public relations counsel, supplied up-to-date information on Association activities and policies, and filled requests for specific materials, aids, and facts.

Information obtained from the state and county societies was extremely valuable in keeping the American Medical Association abreast of medical progress, attitudes, and policies in the grass roots, and it also provided timely materials for the PR Doctor and Exchange and for loan packets and reference files.

Staff members while in the field contacted numerous lay leaders and organizations in addition to medical groups. Here again, the interchange of ideas and information concerning medicine worked to mutual advantage and helped to build good will for the state and county medical societies as well as for the American Medical Association.

Press Service for President

A new service was initiated by the Public Relations Department in January, 1953, with the addition to the staff of an executive assistant to act as press secretary to the President and President-Elect of the American Medical Association. In addition to the direct handling of press, radio, and television relations for the President and President-Elect while accompanying them on their travels, the press secretary also worked closely with the state societies on advance publicity and arrangements. He aided in coordinating itineraries of the President and President-Elect and in answering the large volume of correspondence from the general public.

PR Series in Today's Health

Another new project started in 1953 was the series of public relations articles prepared by the Department for publication each month in *Today's Health.* The basic purpose of the series, which began with the April issue, is to bring out in readable, feature story style the many American Medical Association activities designed to serve the cause of better health in America.

Presidential Inaugural Ceremony

The Public Relations Department for the first time handled all arrangements, promotion, and publicity connected with the inauguration of the new President of the Association. The inaugural ceremony at the New York annual meeting was broadcast by most stations on the ABC radio network. The Department arranged the entire inaugural program, which included the CBS "Dr. Christian" radio program and presentation of the 1953 American Medical Association Distinguished Service Award. A citation for his portrayal of the typical family doctor was presented to Jean Hersholt, star of the "Dr. Christian" program.

In addition to the regular coverage of the President's inaugural address by the press section, a special news release was distributed in mat form to a selected list of 5,000 weekly newspapers and in mimeographed form to more than 1,200 radio stations. To date, press clippings of the mat have been received from over 500 of the weekly newspapers, and over 100 radio stations have reported using the release in news broadcasts.

Women's Activities

The Department provided public relations counsel and suggested program materials for woman's auxiliaries and other women's groups requesting such services. With the objective of intensifying the Department's liaison with various woman's club groups, a study is being made of the women's activities programs of several industrial concerns. A major and successful project undertaken during the year was participation in the May, 1953, convention of the National Federation of Women's Clubs in Washington, D. C. The Department prepared and distributed nearly 1,000 special kits for program chairmen, containing suggested program materials and booklets as well as a comprehensive listing of American Medical Association literature, exhibits, films, and speakers to aid in building club programs.

Guided Tours

Continuing the program of many years standing, which was placed under the supervision of the Public Relations Department last year, a specially trained staff of 12 young women guided almost 400 physicians, employees, and nonprofessional visitors on tours of the Chicago headquarters building. The visitors represented 37 different states and 36 different foreign countries. The purpose of the tours is to promote good will by interpreting the myriad services and activities of the American Medical Association.

General Services

In addition to the specific projects and activities already mentioned in this report, the Public Relations Department during the year provided a wide variety of editorial, research, and counseling services to the members of the headquarters staff, the officers and trustees of the Association, state and county medical societies, and individual physicians. The Department also devotes a great deal of time to answering requests from the general public for information on medical public relations subjects and on the policies and activities of the Association.

Secretary's Office.—The Department works closely with the Secretary and General Manager's Office on all phases of the Association's public relations program. The Department continued to assist in the preparation of the Secretary's Letter, which goes out each week to more than 3,500 national, state, and county medical leaders. A new service, initiated at the New York annual meeting, was the writing and distribution of a general roundup story on the proceedings of the House of Delegates. This story was sent out on the last day of the meeting to all delegates, officers, trustees, and editors of state journals and county bulletins.

The Staff

The activities described in this report have been handled by a staff of 20 people, including secretarial and clerical help. Three experienced public relations writers were added to the staff late in 1952 and in early 1953 to assist in carrying out the expanded public relations program.

Conclusion

The Public Relations Department believes sincerely that medicine's positive story now is being told more effectively in more ways to more people than ever before. The Department wishes to express its appreciation to the officers and Board of Trustees of the Association for their cooperation and support and to the many departments and staff members at Association headquarters who have assisted in developing a well-rounded public relations program.

Report of Council on Industrial Health

In December, 1952, the Council on Industrial Health appointed a Committee on Scope and Objectives to evaluate progress and reexamine purposes of the Council. Much thought and action have been expended in this direction during the past year. The original charter and present status of the Council as a standing committee of the Board of Trustees have resulted in a satisfactory and effective administrative position. Every reasonable facility has been provided for the Council to carry out its early and later directives. However, the rise of industrial medicine as a specialty, the expanding interest of labor in health and welfare, the basic necessity for teamwork between industrial physicians and private practitioners, the increasing complexity of industrial technology and the continuing demand for competent professional assistance by management have impelled the Council to pause and take stock.

In the opinion of this Committee on Scope and Objectives the functions and services of the Council on Industrial Health have tended to concentrate in four major areas—Public Service, Medical Education and Relations, Scientific Development, and Interprofessional Relations.

Public Service concerns itself with organized labor, organized management, trade associations, governmental agencies, voluntary health and welfare groups, and with other activities not primarily medical or professional in character. Subcommittees dealing with emergency services, workmen's compensation, rehabilitation, and medical care operate within this jurisdiction.

Medical Education and Relations has to do with contacts and joint activities with medical organizations, such as agencies within the American Medical Association and in the states and counties, and with special societies both national and regional. A major responsibility is to encourage all phases of industrial medical education and to maintain lines of communication with the teaching centers.

Scientific Development deals with the preventive, hygienic, and clinical aspects of industrial medicine and industrial health, with emphasis on research and its application, determination of prevailing expert opinion, reviews of current knowledge, nomenclature, new developments, and liaison with allied scientific bodies. Subcommittees include dermatology, ophthalmology, cancer, industrial trauma, and occupational diseases.

Interprofessional Relations provides contact with and leadership to industrial nurses, engineers, safety men, chemists, hygienists, psychologists, personnel directors, and social scientists. Subcommittees are needed to deal with human relations and environmental hygiene and safety.

The Committee on Scope expects to recommend that the present committee structure of the Council be altered to fit this organizational scheme and that staffing be arranged with the requirements of these committees in mind. Specific assignments to these committees would involve such subjects as improved relations with labor, management, and government, evaluation of the part to be played in industrial health by the biological, physical, and social sciences, a better definition of the industrial health team, ultimate relationship between occupational and nonoccupational disability, the dynamics of extending curative medical services into rehabilitation and replacement, and the practical implementation of extending preventive medicine into the health problems of apparently well people. In any case, certain basic objectives of the Council must be preserved. Steady improvement in professional standards and results will always be a primary purpose. The elimination of all roadblocks between the industrial physician and the private practitioner is as important as ever. We want to continue to see to it that industrial health problems receive their proper share of attention and understanding as a major element in the provision of medical services and in community health resources.

Small Plant Health Program

Casualty insurance companies underwriting workmen's compensation risks have wide acquaintance with and entré to small business establishments. Representatives of the major casualty insurance trade associations have met with the Council and have agreed to develop a cooperative program. The intention is to create genuine understanding of industrial health objectives by small plant owners, commercial establishments, and others. It has been considered wise to prepare a short, attractive, readable brochure, which would define the advantages of an industrial health service in simple, credible terms. Such a presentation would stimulate interest, which in turn would be satisfied by more extensive information provided through a variety of sources. It was also decided to set a pilot plan in operation in a receptive area in which good working relations already exist between medicine, insurance, and industry. It is expected that such a trial balloon would point up essential modification in the event of more widespread activity.

The National Safety Council has a closely related objective in its promotion of improved safety standards in small plants. The extensive contacts enjoyed by this national organization should provide many other convenient avenues for the spread of informative material to small plant proprietors. Because of this similarity in purpose it is thought that educational and promotional campaigns might be integrated. The staff of the Council has also been asked to serve as consultants to the National Safety Council in the preparation of "Safetygrams," which are very effective forms of visual education dealing with accident prevention and the management of common emergencies. A proposal has been submitted that material of this kind be issued under the joint sponsorship of the Council on Industrial Health and the National Safety Council. The House of Delegates has urged cooperation with the National Safety Council in all aspects of its accident prevention program. The two projects noted above can be regarded as examples of many other similar types of mutually helpful activity.

The extension of industrial health activity to small plants presupposes the availability of a goodly supply of qualified general practitioners. The Joint Committee previously described in Council reports, made up of representatives of the American Academy of General Practice and the Council, has had an opportunity to participate in a practical demonstration of teaching methods. A symposium designed for general practitioner indoctrination was held at the Harvard School of Public Health. A full transcript of the lectures and demonstration has been secured and distributed to each state medical society, and to each medical school. In addition, sources of practical experience and instruction have been mobilized and will be available in the course of time in many parts of the country.

Industrial Health Councils

The American Medical Association has endorsed the principle of community health councils. Two sizable communities in the South have developed local industrial health councils, which provide a variety of services in the form of health education and certain forms of screening examinations. Direction is supplied by representatives of industry. The purposes and methods have been approved by state and local medical societies. Facilities and personnel to supply these services have in part been made available through public and voluntary health agencies. In this way services have been provided to small plants at a very modest per capita charge. Since this form of community mobilization for industrial health service seems to be a useful modification of the community health council principle, the Council has undertaken to study these programs with great attention with the possibility of implantation elsewhere in mind. A special conference on local industrial health councils was a feature of the 13th Annual Congress on Industrial Health. An abstract of this conference will shortly be available for the information of other communities and local organizations.

Health Home Council

In accordance with instructions received from the Board of Trustees, approved by the House of Delegates, additional attention has been given to the implementation of a Health Home Council. The original report which acquainted the House with this development described meetings with representatives from the Edison Electric Institute, the National Electric Manufacturers Association, and others to set up an agency to promote research and to educate the public, industry, and professional groups about work simplification and energy-saving devices for housewives with disabling disease or handicap. The intent of this development was approved in principle, but was referred back to the Joint Committee on Rehabilitation of the Council on Industrial Health and the Council on Physical Medicine and Rehabilitation for further study. Recently a Statement of Objectives and a Constitution and Bylaws have been prepared, all of which are still under study.

Union Health and Welfare Plans

The Committee on Medical Care for Industrial Workers has extended considerably its knowledge of direct medical service plans. Thirteen union health and welfare programs have been visited and reports prepared, which in turn have been checked for accuracy with the executive directors of the plans themselves. An over-all condensed report is in preparation for publication in The Journal. A separate brochure will describe in detail the individual plans for the benefit of those who are interested in full information. Similar visits are being made to management-sponsored plans, with the same end in view.

In mid-September the second Conference on Medical-Hospital Problems in the Bituminous Coal Mining Areas, sponsored by the Councils on Medical Service and Industrial Health, was held in Charleston, W. Va., and was well attended by representatives of the medical societies of Kentucky, Pennsylvania, Tennessee, Utah, Virginia, and West Virginia, and of the United Mine Workers Welfare and Retirement Fund. A report of this meeting will describe the very gratifying improvement in public and medical relations in the Southeastern bituminous coal fields and the remarkable evidences of improved standards of medical and hospital care.

Sickness Absenteeism

The principle objective of industrial medicine is to reduce sickness absenteeism. It is well known that ordinary illness far exceeds industrial accidents or occupational disease as a causative factor. It is in this general area that the need for team work between the industrial physician and the private practitioner becomes most evident. For nearly thirty years the Division of Occupational Health Care of the Public Health Service has collected, interpreted, and published data on lost-time illness in industry, identified as to major diagnostic classifications, duration, and incidence. These statistics are unique and on them are based most of the calculations which make disability compensation plans and even retirement programs possible. Recent reductions in appropriations have made it necessary to discontinue this service. The Council on Industrial Health has been suggested as a likely agency to assume this responsibility. Current studies are being directed to learn the full usefulness of the data, how they may be improved and more widely circulated, and whether or not the American Medical Association is the agency to serve as the point of collection and dissemination.

The production and monetary loss to industry from lost-time illness is enormous. The private medical profession is directly involved because of the need for certification based on a diagnosis and prognosis in order to establish eligibility for sickness benefits. Many complaints are received about uncritical practices relating to certification, especially the unnecessary prolongation of absence due to sickness or surgical procedure. Teamwork between private and industrial physicians is a first essential to betterment.

The Industrial Medical Association has agreed to assist in the documentation of undesirable practices which tend to prolong illness unnecessarily. A committee is now engaged in clarifying the objectives, listing parties at interest, methods of securing supporting data, and ways and means of arriving at a solution.

Professional Relations

The annual conference between the chairmen of the committees on industrial health in the state medical societies and the Council on Industrial Health have proved to be a most effective stimulus to interchange of information and useful activities. The objectives of these conferences are:

1. To exchange information on as informal a basis as possible;
2. To integrate the work of the Council on Industrial Health and the state committees, and to make this relationship a two-way operation;
3. To stimulate the State Committees to list and undertake specific assignments, and
4. To make certain that Industrial Health is given real consideration in the plans and deliberations of state and county societies.

As a case in point, several state medical societies have recently adopted codes of ethics for the physician in industry. To capitalize on this desirable trend, a committee has been appointed to prepare a code adaptable to all states. The source material will consist mainly of the outline on procedure for physicians in industry originally prepared by the Council in 1942 and now greatly in need of revision.

Workmen's Compensation

The Workmen's Compensation Committee of the Council on Industrial Health is presently engaged in making a survey of medical relations under workmen's compensation. To determine the probable value of a nation-wide survey and to work out the technical aspects of collecting the required information, Illinois was chosen as the location for a pilot study. In June an outline of the material to be contained in the survey and a discussion guide were formulated. A study has been made of the actual practices under the statutory provisions of the Illinois Workmen's Compensation and Occupational Diseases Acts affecting medical relations and services. Among the subjects covered are: Medical care, choice of physician, examinations and reports, hospitals and hospital records, medical fees and costs, medical testimony, accident and occupational disease prevention, and rehabilitation.

Information has been developed through personal interviews with representatives of the medical profession, hospital administration, labor, industry, insurance companies, the Bar, and state agencies. Additional information has been obtained from reports, articles and responses to questionnaires.

Estimation of Visual Loss

Work has been started on a revision of the American Medical Association's method of estimating the percentage loss of visual ability under a distinguished committee of ophthalmologists consisting of Edmund B. Spaeth, F. Bruce Fralick and William P. Hughes Jr. The Section on Ophthalmology has extended its encouragement and endorsement.

Report of Committee on Legislation

During the period covered by this report, Oct. 1, 1952, to Sept. 30, 1953, the Committee on Legislation has had six meetings, has analyzed 259 legislative proposals, and has recommended policy positions on 210 of these measures to the Board of Trustees.

Following is an enumeration of the measures on which either oral or written statements were presented during the 83d Congress, together with the names of the witnesses and a brief resume of each proposal.

S. 106 and S. 1514.—A written statement was submitted by Dr. George F. Lull on April 15, 1953, to the Senate Committee on Government Operations stating the views of the American Medical Association on these measures. S. 106 would authorize the establishment of a commission to study the organization and operations of the Executive Branch of the government. Dr. Lull stated that it was the Association's belief that, if properly conducted, such a survey could result in the elimination of considerable overlapping of activities and waste of funds.

It was pointed out, however, that the primary interest of the Association was with S. 1514, which would authorize a study and report concerning all of the present activities in which federal aid is extended to state and local governments, with particular reference to health, education and welfare. The study would involve matters which have for many years been of vital concern to the medical profession because of repeated attempts at governmental encroachment in the field of health. It was pointed out that the Association felt that such a survey is imperative to determine whether there is justification for federal aid in the various fields in which such assistance has been extended during the past few years, whether such activities should be limited and, if so, to what extent, and finally, to permit an over-all appraisal of the ability of the federal government to finance activities of this nature. These two bills were enacted into law (Public Law No. 108 and Public Law No. 109, respectively) on July 10, 1953.

S. J. Res. 1.—Dr. George F. Lull submitted a written statement on Feb. 18, 1953, to the Senate Committee on the Judiciary, outlining the Association's views on this resolution and similar measures designed to amend the United States Constitution relative to the making of treaties and Executive Agreements. The Association believes that some limitation is necessary to avoid any abridgement of the rights enumerated in the Constitution and to prevent the adjudication of domestic issues by such measures.

This resolution in an amended form was reported favorably by the Senate Judiciary Committee on June 15, 1953 and is now waiting action by the Senate.

H. R. 10 and 11.—Dr. E. J. McCormick and Frank G. Dickinson, Ph.D., testified before the House Committee on Ways and Means on Aug. 12, 1953, supporting this legislation which provides for a deferment of tax payments on premiums paid to promote retirement benefits for self-employed and others not covered by existing pension plans. The bills would amend the Federal Internal Revenue Code to allow physicians and other self-employed individuals to deduct from their taxable income those amounts used each year to finance restricted retirement plans. The purpose of the bills is to eliminate the discrimination and inequities existing under present tax laws, by extending the tax deferment privilege to the country's ten million self-employed, and also to millions of employees who are not covered by pension plans.

H. R. 116.—A written statement containing pertinent statistical information was submitted by Dr. George F. Lull to the House Committee on the Judiciary on April 21, 1953. The bill would prohibit the interstate transportation of fireworks into any state in which the sale of fireworks is a violation of local law, unless they are to be used for public displays or other purposes specifically authorized by the laws of such state.

H. R. 303 and H. R. 1057.—A written statement was submitted by Dr. George F. Lull to a Subcommittee of the House Committee on Interior and Insular Affairs on April 21, 1953, presenting the Association's views concerning these bills and urging that they be reported favorably. These bills, which are designed to provide for the transfer of the functions, responsibilities and duties of the Department of the Interior and the Bureau of Indian Affairs relating to the health and hospitalization of Indians to the United States Public Health Service, have the active approval of the American Medical Association. It is the belief of the Association that the transfer of such facilities to the Public Health Service would result in much needed improvements in the health facilities and hospitals available to the Indian population of the United States. Administration of these installations by the Public Health Service would facilitate the recruitment of necessary physicians and allied health personnel and would insure a higher degree of medical care for the beneficiaries of the program.

H. R. 2769.—On April 21, 1953, a written statement was submitted by Dr. George F. Lull to the House Committee on Interstate and Foreign Commerce, urging that the committee report this legislation favorably. The bill would authorize the Food and Drug Administration to inspect factories without first making a request and obtaining permission. It is the belief of the Association that the principle of this bill is a proper one and that the measure should be adopted, provided proper safeguards are included to protect the physician-pharmacist-patient relationship. It was also pointed out that, although it may not be the intention of the sponsors of the bill that this be applicable to anything other than factory inspections, the Association believes that language should be included which will clearly indicate that the bill has no application to confidential business and professional records which have no specific bearing on the enforcement of the Food, Drug, and Cosmetic Act. This bill was enacted as Public Law 217, 83rd Congress, on Aug. 7, 1953.

H. R. 3204.—Dr. George F. Lull presented a written statement to the House Committee on Interstate and Foreign Commerce on June 24, 1953, requesting favorable consideration of this measure. The bill would authorize the United States Public Health Service to admit to its hospitals persons committed by state courts who are beneficiaries of the service or narcotics addicts. On May 30, 1953, the Committee on Legislation considered this bill and recommended its enactment because of the existing shortage of proper facilities for the persons covered by the bill. This action was approved by the Board of Trustees on June 4, 1953.

H. R. 3375.—On June 17, 1953, Dr. David B. Allman testified before the House Committee on Ways and Means relative to the deduction of medical and dental expenses for income tax purposes.

The Committee on Legislation has considered a number of bills introduced during the 81st, 82nd and 83rd Congresses which are designed, in general, to authorize the deduction of all or a larger percentage of medical expenses from gross income for income tax purposes. The effect of this legislation would be to reduce or remove the limitation on such deductions imposed by existing law. Certain of these bills would also redefine the term "medical expenses" to include amounts paid as premiums for prepayment health insurance. The principle involved in all of these measures has been actively approved by the Committee on Legislation and by the Board of Trustees. Although no attempt has been made to work out the details of the formula to be applied, the Association is of the opinion that a greater measure of relief should be provided in this way for those individuals who have suffered from the financial burden resulting from the expense of a serious, long-term illness.

H. R. 4277.—Dr. George F. Lull submitted a letter to the House Committee on Interstate and Foreign Commerce on July 16, 1953, stating the Association's opposition to this bill. He pointed out that the Association endorses the principle of enacting a Pesticides-Residue Amendment to the Federal Food, Drug, and Cosmetic Act in the interest of public health; however, the Association questions whether H. R. 4277 in its present form would provide adequate safeguards or protection against the marketing of foods containing potentially poisonous or deleterious pesticides.

H. R. 4393.—Dr. Walter B. Martin testified before the House Committee on Ways and Means on June 18, 1953, relative to the deduction of college and educational expenses for income tax purposes. The Association strongly urged that the Committee give favorable consideration to this bill which would amend the Internal Revenue Code to allow persons engaged in teaching school or in any other profession to deduct, as trade or business expenses, and in determining adjusted gross income, ordinary and reasonable educational expenses paid or incurred for the purpose of (1) carrying on his profession, (2) making himself better qualified for his profession, or (3) increasing his remuneration from his profession. The amendments would be applicable with respect to taxable years beginning after Dec. 31, 1952.

H. R. 4495.—Dr. Edwin S. Hamilton testified before the House Committee on Armed Services on April 24, 1953, relative to the procurement of medical officers for the Armed Forces. This bill was designed to extend the "Doctor-Draft" law for two years beyond its expiration date of June 30, 1953. The bill also provided for a variety of technical amendments in the present law (Public Law 779, as amended).

In its testimony the Association endorsed a one year extension of the law, recommended that all priority 4 physicians be excused from further liability for service and suggested a number of less important amendments to the bill. On May 20, 1953, Dr. Hamilton again testified on H. R. 4495 before the Senate Armed Services Committee. This bill was approved, with amendments, on June 29, 1953 and became Public Law 84, 83rd Congress.

Reorganization Plan No. 1, 1953

On March 16, 1953, Dr. Elmer L. Henderson presented the Association's position relative to Reorganization Plan No. 1 to a Joint Committee of the Senate and House Government Operations Committees. This Presidential proposal recommended that the Federal Security Agency be elevated to cabinet rank and redesignated as the Department of Health, Education and Welfare. The plan did not propose any changes in the functions of the agency, but did provide for certain top-level personnel changes.

Despite the fact that the Association has advocated for many years and still advocates a separate Department of Health, this Reorganization Plan was endorsed by the Board of Trustees and the House of Delegates as a step in the right direction. The plan became effective on April 11, 1953, in the form of Public Law 13, 83rd Congress.

Reorganization Plan No. 6, 1953

On June 18, 1953, Dr. David B. Allman testified before the House Committee on Government Operations relative to the reorganization of the Department of Defense (Reorganization Plan No. 6, 1953). The Association's interest in this reorganization plan was confined to Section 3, which would authorize the appointment of six additional Assistant Secretaries of Defense from civilian life by the President by and with the advice and consent of the Senate. Although the specific duties of thsee assistant secretaries were not specified in the Reorganization Plan, it was assumed that the assignments suggested by the report of the Rockefeller Committee on the Department of Defense organization dated April 11, 1953, would be favorably considered. It was the recommendation of that committee that one of the proposed assistant secretaries be placed in charge of health and medical affairs with the responsibility for "maintaining high health standards among the personnel of the Armed Forces and for providing and managing hospitals and other medical installations at the smallest possible cost in dollars and professional personnel."

On Feb. 7, 1953, the Board of Trustees of the American Medical Association approved a recommendation of the Council on National Emergency Medical Service that a position as Assistant Secretary of Defense for Health and Medical Affairs be created by law. It was the belief of the Association that the creation of such a position would insure a proper correlation of military and civilian medicine, especially in the matter of apportionment of essential, highly trained health personnel. This Reorganization Plan was approved by the House of Representatives and since it was not rejected by the Senate within 60 days from the date of referral by the President, it became effective on June 30, 1953. Dr. Melvin A. Casberg has since been appointed as Assistant Secretary of Defense (Health and Medical).

Hospitalization Entitlement of Veterans

Dr. Walter B. Martin testified before a Subcommittee on Hospitals of the Committee on Veterans' Affairs of the House of Representatives on July 13, 1953.

It was the recommendation of the Association that Congress restudy existing legislation providing hospitalization and medical care for veterans with non-service-connected disabilities. The Association questioned whether the federal government should continue to engage in a gigantic medical care program in competition with state, local, and private medical institutions and whether the ever-increasing cost of such a program was a proper burden to impose on the taxpayers of this country. It was recommended that legislation be enacted to limit the medical care and hospitalization benefits for veterans in Veterans Administration and other federal hospitals to: (*a*) veterans with peacetime or wartime service whose disabilities or diseases are service-incurred or aggravated; and (*b*) within the limits of existing facilities, to veterans with wartime service suffering from tuberculosis or psychiatric or neurological disorders of non-service-connected origin, who are unable to defray the expenses of necessary hospitalization.

Regional Legislative Conferences

The Committee cooperated with the Washington Office in conducting a series of regional legislative conferences designed to acquaint key legislative personnel in the states with the most important medical legislation before the Congress.

Liaison and Publication Activities

The Committee has maintained close and constant liaison with the committees on legislation of the state and territorial medical associations and has established similar arrangements with major national health associations in an effort to obtain their support and to furnish them with up-to-date information regarding national medical legislation. In order to facilitate the dissemination of such information the Committee has prepared and distributed a monthly "Legislative Review," which is currently being sent to approximately 300 persons.

In addition, a brief review of the bills considered by the Committee and the policy positions adopted are published in The Journal after each Committee meeting.

Appreciation

The Committee wishes to express its appreciation to the Board of Trustees, the Washington Office, and the officers and staff of the Association, as well as the state medical societies, for their cooperation and assistance during the period covered by this report.

Report of Committee on Medicolegal Problems

This is the fourth annual report of the Committee on Medicolegal Problems. During the year the Committee held one meeting at which reports were presented and considered by the several subcommittees. Another meeting will be held, possibly in connection with the St. Louis Meeting.

Subcommittee on Medical Malpractice.—Continued interest is being expressed in the report of this subcommittee entitled "Malpractice and the Physician," and in the exhibit prepared on the basis of this report entitled "Etiology of Medical Malpractice." During 1953, to date, this exhibit has been presented in connection with the meetings of nine medical societies, including the meeting of the National Medical Association held in Nashville in August. Approximately 3,000 reprints of the report of the Subcommittee were furnished without charge to medical schools for distribution to members of senior classes, and more than 500 copies were otherwise distributed.

Subcommittee on Courses in Medical Jurisprudence.—The report of this Subcommittee outlining a suggested course in legal medicine or medical jurisprudence for medical schools was published in The Journal, Oct. 18, 1952. Reprints of this report were sent to each medical school and the responses received by the chairman of the subcommittee indicated that the schools are definitely interested in the subject of presenting more information to medical students concerning the many problems that they will in later life be confronted with which involve medicolegal situations. This subcommittee is now considering the desirability of preparing additional material that may be utilized by the medical schools in connection with the offering of courses to students in the medicolegal field.

Subcommittee on Medicolegal Aspects of Blood Transfusion.—This subcommittee presented its report at the February, 1953, meeting of the Committee. It was accepted by the Committee and was subsequently published in The Journal for April 18. This report is a comprehensive and informative statement summarizing the present status of knowledge concerning the dangers of blood and plasma transfusion. The various untoward sequelae of such transfusions and the preventive precautions that can be taken are discussed in the report in detail. To date, more than 500 reprints of this report have been furnished to hospitals, blood banks, libraries, and individual physicians. This report, it is hoped, will serve to increase further the safety of this important therapeutic procedure.

As pointed out in the report, two of the most pressing problems related to blood transfusion are homologous serum jaundice and bacterial contamination of bank blood. These problems are worthy of more detailed study in order to determine what steps can be taken to reduce the incidence of these dangerous complications of transfusion.

Subcommittee on Forensic Psychiatry.—The chairman of this subcommittee submitted a progress report which was accepted. In this report the chairman reemphasized the desirability of further studies when necessary to explore the legal actions that are taken against psychiatrists in connection with accidents that follow electric shock treatment. The report also reviewed the facts of a then recent Illinois case involving the right of a court to compel the disclosure of information obtained by a psychiatrist in his examination of a patient. In that case the court held that while in Illinois there was no law declaring as privileged those communications that result from the attendance on a patient by a physician, yet the psychiatrist involved in the case was not required to disclose on the witness stand information he received during the course of his examination of the patient.

Subcommittee on the Medicolegal Status of Blood Tests in Disputed Paternity Cases.—Since the publication of the report of this subcommittee in THE JOURNAL, June 14, 1952, 2,200 reprints have been distributed on request. The chairman of this subcommittee was authorized to revise or to supplement this report whenever in his opinion it is necessary.

Subcommittee on Chemical Tests for Intoxication.—The exhibit prepared by this subcommittee, financed jointly by the National Safety Council, has been used on a number of occasions during the year. It has been shown at least sixteen times to medical and other organizations for a total of 184 days. It was displayed by the Board of Education of Los Angeles for three months in the junior high schools of that area. The exhibit has been so popular that a duplicate copy of it has been necessitated.

This subcommittee has also prepared a leaflet entitled "Test Your A.Q. (Alcohol Quotient)—Twenty Questions on Alcohol," and 30,000 copies of this leaflet have been distributed.

At the last meeting of the Committee, the chairman of this subcommittee reported that there had been some criticism of the laws that have been enacted in a number of states providing for the admissibility of chemical tests for intoxication in evidence. He stated that the objection centered around the fact that none of the laws made it compulsory that a person involved in an automobile accident submit to a chemical test to determine if intoxication was an element of the accident. The National Safety Council, the chairman reported, has developed a model law to correct this shortcoming, providing that since driving a motor vehicle is a privilege, the individual who requests a drivers' license should be required to agree that he would, in case of an accident, furnish evidence regarding his sobriety if called on to do so. A failure to comply with such a request would provide grounds for the revocation of his driver's permit. Copies of this law were not available to the Committee for consideration, and therefore no action was taken.

The chairman of the subcommittee represented the Committee on Medicolegal Problems at the Second International Conference on Alcohol and Road Traffic held in Toronto, Canada, Sept. 9-12, 1953. Representatives from India, Australia, South Africa, Korea, and many European countries attended the conference and took part in the discussions.

Subcommittee on Forensic Pathology.—During the year the chairman of this subcommittee attended many meetings in advocacy of the enactment of appropriate legislation to modernize the functions of the coroner system. At the last meeting of the Committee, the subcommittee chairman made a brief report and suggested that the Committee continue its interests in this particular field.

Consideration was given to the development of an exhibit that might be made available to state medical associations illustrating the benefits to be anticipated if such legislation is enacted to place a coroner system on a more scientific basis. No final action was taken with respect to such an exhibit but it is hoped that one can be evolved for there is a great need for it.

In the report of the Bureau of Legal Medicine and Legislation a detailed reference is made to the formulation by the National Conference of Commissioners on Uniform State Laws of a model medical examiner law. Suffice it to say here that the Committee is heartily in support of this program and has cooperated and will continue to cooperate with the conference. In event that such a model act is evolved by the conference, the Committee has under consideration the establishment of a panel of physicians the members of which will be located geographically to assist state medical associations desirous of promoting the enactment of the model law. This is a continuing project of the Committee and further progress reports will be submitted.

Report of Bureau of Legal Medicine and Legislation

Activities of the Bureau of Legal Medicine and Legislation during the year covered by this report have proceeded in accordance, in the main, with a normal pattern. A considerable number of inquiries dealing with a wide variety of problems in the medicolegal field have been received and answered. Over a period of years a stockpile of information has been accumulated in the Bureau concerning medicolegal situations which can be tapped by members of the Association or by their legal counsel.

A very close relationship has been maintained with the Committee on Medicolegal Problems, of which the Director of the Bureau is a member and functions as its Secretary. Obviously, there are many problems of mutual interest and concern to the Bureau and to the Committee, and collaboration is essential.

During 1953 the Director of the Bureau was assigned the additional responsibility of assuming the functions of an executive secretary to the Judicial Council. This responsibility the Bureau has attempted to assume to the end that the work of the Council can be expedited with the least amount of trouble to the Council as a whole or to the individual members thereof.

The Bureau of Health Education during the past year outlined a series of radio transcriptions explanatory of the activities of the several councils, bureaus, and committees of the Association. The Bureau of Legal Medicine and Legislation collaborated in this project by providing background material for the transcription on the utilization of chemical tests for intoxication and, in addition, recording a brief statement indicative of the interest of the Association, expressed through the Bureau and the Committee on Medicolegal Problems, in other aspects of the broad field of legal medicine.

COUGHLIN CASE

In the report of the Bureau of last year, reference was made to a pending case involving the right of a lawyer, George G. Coughlin, Esq., to deduct for federal income tax purposes expenses incurred by him in attending a postgraduate course on taxation. In the report it was said that since the issues involved in the Coughlin case were so similar to the right of a physician to deduct postgraduate medical expenses, the Association had decided to enter into the case as *amicus curiae*. As previously reported, the office of the Commissioner of Internal Revenue denied the right of deduction claimed by Coughlin and the U. S. Tax Court sustained the action taken by the Commissioner of Internal Revenue. The Association filed a brief as *amicus curiae* before the Tax Court.

Subsequently the case was appealed to the U. S. Court of Appeals, Second Circuit, and again the Association filed a brief. The case before the appellate court was argued orally on March 11, 1953, and on April 14 the court in a unanimous opinion reversed the decision of the U. S. Tax Court and held that the lawyer could deduct, for federal income tax purposes, the expenses incurred by him in attending the postgraduate course on federal taxation.[1]

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[1] Coughlin v. Commissioner of Internal Revenue, 203 F. (2d) 307

In this decision, the U. S. Court of Appeals recited certain facts involved in the case. It reported that the petitioner lawyer, Coughlin, was a member of a law firm practicing in Binghamton, N. Y. This firm was engaged in general practice but did considerable work which required at least one member to be skilled in matters pertaining to federal taxation, and to maintain such skill by keeping informed as to the changes in tax laws and the significance of current court decisions. The partnership relied on Coughlin to keep advised on this subject and in order to do so he attended, during the year in question, an Institute on Federal Taxation which was conducted in New York City under the sponsorship of the Division of General Education of New York University. In so doing, he incurred expenses for tuition, travel, board, and lodging which he claimed as an allowable deduction under the federal income tax laws as ordinary and necessary expenses incurred in carrying on a trade or business.

The Court of Appeals, in deciding for the petitioner, held that he was morally bound to keep informed on advances that occur in the field of federal tax legislation and that his attendance at the session arranged by the institute was a way well adapted to fulfill his professional duty to keep sharp the tools he actually used in his going trade or business. It may possibly be, the court said, that the knowledge Coughlin thus gained increased his fund of learning in general and in that sense the cost of acquiring it may have been a personal expense. The immediate, over-all professional need to incur the expenses in order to perform his work with due regard to the current status of the law, the court thought, so overshadows the personal aspects that it is the decisive feature.

Following the decision in the Coughlin case, the Bureau requested tax counsel to express an informal opinion as to the effect of the decision on the right of physicians to deduct expenses incurred in the pursuit of postgraduate medical education. Tax counsel indicated that the decision is of special significance for the medical profession and stated, in part:

> "The decision of the Circuit Court is not confined to lawyers. It equally applies to the practicing physician who attends postgraduate courses which are similarly designed to refresh his medical knowledge and to keep him informed of recent medical developments. Therefore, in computing his federal income tax a doctor may deduct the expenses of his attendance, namely, the cost of his tuition, travel, board, and lodging.
>
> "However, it is by no means clear that the court's decision covers attendance at postgraduate courses which are designed to advance the doctor into a new area of his profession. For example, there is a good deal of doubt whether a general practitioner may deduct his expenses in attending a postgraduate course in order to specialize in surgery. But this would be the unusual case. Normally, a doctor attends a postgraduate course relevant to the field in which he is practicing and all the expenses which he so incurs are deductible by him."

The government did not appeal from the decision in the Coughlin case and the time within which such an appeal could have been perfected has expired.

UNIFORM MEDICAL LICENSURE

Early in the year the Federation of State Medical Boards of the United States created a Committee to Study the Essentials of a Modern Medical Practice Act, of which Dr. Bruce Underwood of Kentucky was named as chairman. The idea behind the creation of this committee was to make a determined effort to reach an agreement on certain basic essentials that should be contained in a medical licensure law and which could at least in principle be put into effect in all of the states, thus approaching a uniformity lacking at the present time. Dr. Underwood has asked the Bureau to collaborate with his committee to the extent, initially, of making a detailed study of the present medical licensure laws, and the Bureau has welcomed the opportunity to do so. A detailed study is now under way by the Bureau, and results will be given to Dr. Underwood so that he can present a preliminary or progress report to the federation when it meets the early part of next year.

To the Bureau this seems to be a most worth-while project. It perhaps is not possible to have complete uniformity in every detail in the medical licensure laws of the several states, but it is certainly hoped that out of this effort there can be achieved a uniformity in certain essentials of a licensure law.

THE WOMAN'S AUXILIARY AND INCOME TAXES

Many inquiries have been received during the past few years concerning the right of a member of the Auxiliary to deduct for federal income tax purposes expenses incurred in attending official Auxiliary meetings. This specific question has not been decided by the Office of the Commissioner of Internal Revenue. At the request of the executive secretary of the Woman's Auxiliary to the American Medical Association, an application is now in the process of being filed with the Commissioner's office to obtain a definite ruling on this question. The response to the application will be given due notice in THE JOURNAL.

RADIOLOGY AND HOSPITAL PRACTICE

Since the last report of the Bureau, a significant opinion has been rendered by the Attorney General of Ohio concerning the practice of radiology in and by hospitals. The opinion was requested by the secretary of the state medical board. As a premise for the request, the secretary of the board stated that a radiologist had entered into an agreement with an Ohio corporation not for profit operating a general hospital, under which agreement the physician agreed to supervise the operation of the x-ray equipment owned by the hospital and the technicians employed by it in its x-ray department and as to all x-rays taken at the hospital to give his opinion as to the condition of the patient based on the x-rays taken of the patient. These x-rays were to be taken with hospital equipment either by the technicians or in some cases by the physician himself.

For the services of the physician and the use of its equipment and personnel, the hospital bills and collects a fee from the patient according to a set scale of charges. The hospital would pay the physician for his services a fixed percentage of the net income of the x-ray department. The secretary of the board posed two questions: 1. Was the hospital corporation practicing medicine in violation of the law? 2. Was the radiologist guilty of "grossly unprofessional conduct" within the meaning of the medical practice act which defines that term to include the division by a physician of his fee with any other physician or surgeon or with any other person.

After reviewing previous Ohio court decisions and past opinions of his office, the Attorney General concluded that in Ohio a corporation may not directly or indirectly, whether or not organized and operated for profit, practice a profession by hiring licensed members of such profession to do the actual professional work involved. The Attorney General further expressed the opinion that any corporation which charges and collects a fee from patients for medical treatment performed by licensed physicians as employees of such corporation is unlawfully engaged in the practice of medicine. The Attorney General further states:

> "In any contractual arrangement such as we find here between the hospital and the physician, it can scarcely be contended that the hospital is not entitled to a fair compensation for the use of the facilities owned by it and for the non-professional services performed by it. I should think it would be conceded also that such non-professional services may properly include a reasonable compensation to the hospital (a) for its services in billing and collecting the charges made, (b) for the clerical duties of scheduling the use of the equipment by the physician, (c) for the services of the x-ray technicians, and (d) for any other non-professional services involved in the operation of the x-ray department. Accordingly, I conclude that the contract which you have described in the instant case must be held unlawful if it should be determined that the net income received by the hospital thereunder is manifestly in excess of the reasonable value of such use and of such other non-professional services as are supplied by the hospital."

In answer to the second question submitted by the medical board, the Attorney General said:

> "In the event that your board should determine, in the case of any contract such as that here under examination, that the income received by the hospital is manifestly in excess of a fair compensation for the use of the hospital-owned equipment and of the non-professional services supplied by the hospital, such determination will necessarily amount to a finding that a part of such income is attributable to the professional services of the physician. In such case it clearly follows that the physician has made an arrangement to share his fee with another person, and so is guilty of grossly unprofessional conduct."

MEDICOLEGAL ABSTRACTS

The fourth volume of Abstracts of Medicolegal Cases was made available by the Bureau during the year. A fifth volume is in the course of preparation, to include the abstracts that have previously been published in THE JOURNAL from 1947 to 1952 inclusive. These volumes are published pursuant to a resolution adopted by the House of Delegates in 1932. The four volumes already published make available in an accessible form the abstracts of medicolegal cases that have been published in THE JOURNAL from 1926 to 1946.

During the year covered by this report, too, the Bureau has supplied for publication in THE JOURNAL abstracts of significant decisions by courts in the medicolegal field. The following decisions, which have been abstracted in THE JOURNAL or which will be published during the year, warrant brief comment.

In Nebraska, the Supreme Court held that an unborn child is a part of its mother until birth and since it has no juridical existence prior to that time no cause of action can accrue to it when it is born dead. The unborn child's representative, therefore, has no right to sue for the damages, allegedly sustained by an unborn child, under the wrongful death statute of Nebraska.[1] In New York, however, the Court of Appeals held that an unborn viable child had a right to sue for damages sustained prior to his birth.[2]

A regulation of the Board of Regents of the University of Washington was upheld by the Supreme Court of the State which required all students desiring to register to undergo an x-ray examination of the chest for the purpose of discovering possible tubercular infection.[3]

The Supreme Court of Illinois held that a child is a neglected child under state statutes when its parents refuse on religious grounds to permit a blood transfusion. The court sustained the right of the juvenile court to appoint a guardian for the child who is authorized to consent to the blood transfusion.[4] In another case involving religious faith and belief, the Supreme Court of Florida held that a statute relating to compulsory isolation and hospitalization of tubercular persons was not unconstitutional.[5]

In a decision rendered by the Supreme Court of North Carolina it was held that a charitable hospital is not liable for the negligence of its employees in the care and treatment of patients who have accepted the benefits of the charity if the hospital has used due care in the selection of its employees.[6] But in a case decided by the Supreme Court of Mississippi, it was held that a charitable hospital is liable for the negligent acts of its employees that proximately cause the death of a patient even though the hospital exercises reasonable care in the selection, employment, or retention of such employees. In this case a laboratory technician had reversed the labels on two bottles of blood to be used in a transfusion.[7] A private hospital accepts patients under an implied obligation to exercise such degree of care and attention for their safety as the physical and medical condition of the patient may require. In the case of a deranged or delirious patient, held the Court of Appeals of Kentucky, the care and attention extends to safeguarding the patient from danger due to his inability to care for himself.[8] The Supreme Court of Florida held that one who enters a public hospital and pays for the services he receives is entitled to the same protection and has the same redress for wrongs that he would be entitled to had he had the same experience in a privately owned and operated hospital.[9]

A person charged with murder, held the Supreme Court of California, is entitled to be examined by an alienist of his or her choice, such examination to be private and not in the presence of alienists appointed by the court.[10] In a case involving the admissibility of blood tests in a paternity dispute, the Supreme Court of Ohio emphasized that evidence of this sort is admissible only to prove nonpaternity and not paternity.[11] In the opinion of the criminal court of appeals of Oklahoma, chemical tests for determining whether or not an individual is under the influence of intoxicating liquor have gained such scientific standing for infallibility as to justify the admission of expert testimony concerning them.[12]

The Supreme Court of Nebraska held that an osteopath is entitled to a license to operate a hospital as an incident to his practice of osteopathy.[13] In Louisiana, the Supreme Court held that the practice of chiropractic constitutes the practice of medicine, that the state medical practice act was constitutional and that chiropractors must comply with its provisions.[14]

In a case that came before the Supreme Court of Illinois, it was held that an injury that decreases an employee's corrected vision was compensable even though it did not affect his "naked" vision and that the basis for determining the extent of the disability should be the difference between the corrected vision prior to the accident and the highest correction possible after the accident.[15]

A case came before the U. S. Supreme Court involving the induction of a physician under the so-called Doctor-Draft law in which it was held that the inducted physician need not be used as a physician but that he must be qualified for duty within the category which rendered him liable to induction.[16]

Expenses of tuition, travel, board, and lodging incurred by an attorney in taking postgraduate courses in taxation are deductible as ordinary and necessary expenses, according to a decision of the U. S. Court of Appeals, Second Circuit.[17] According to a decision of the U. S. Court of Appeals, Ninth Circuit, the Federal Security Administrator is authorized to require drugs sold in interstate commerce to bear a label proscribing their sale except on the prescription of a physician if the drugs are not suitable for self-medication and are inherently dangerous, such as male and female sex hormones.[18] Humane societies, in the opinion of the Supreme Court of Wisconsin, must surrender impounded dogs to the University of Wisconsin on proper requisition.[19]

MODEL MEDICAL EXAMINER LAW

The Conference of Commissioners on Uniform State Laws created during the year a special committee to draft a model medical examiner law. The chairman is Robert A. Leflar, Esq., Dean of the School of Law, University of Arkansas. The Bureau and the Committee on Medicolegal Problems of the Association have maintained close contacts with this development by correspondence and conferences. Available material has been furnished.

A first draft of such a law was prepared during the summer and considered by Dean Leflar's committee at a meeting held in Boston on Aug. 17 which was attended by the Director of the Bureau, the chairman of the Committee on Medicolegal Problems, Dr. Alan Moritz, and by the chairman of that committee's Subcommittee on Forensic Pathology, Dr. Richard Ford. A number of changes in the first draft were suggested during the course of this meeting, and a second draft was prepared by Dean Leflar.

Later in the week, the second draft was presented to the conference sitting in Committee of the Whole. Still other changes were suggested, and Dean Leflar will prepare a third draft of the model law which will, after appropriate consideration by his committee, be considered by the conference when it meets in Chicago in August, 1954.

This is an important development in which American medicine is greatly concerned. The Bureau will keep closely in touch with it, collaborating with the Committee on Medicolegal Problems.

STATE MEDICAL LEGISLATION

As has been frequently reported, the Bureau keeps in touch closely with state legislation of interest to medicine. Brief abstracts of bills introduced are weekly prepared for publication in THE JOURNAL, and the Bureau maintains adequate files for the benefit of a constituent or component association or society confronted with particular legislative problems. A summary of the more important laws enacted during 1953 of interest to medicine is in the course of preparation and will be submitted to THE JOURNAL for publication.

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[1] Drabbels v. Skelly Oil Co., 50 N.W. (2d) 229
[2] Woods v. Lancet, 102 N.E. (2d) 691
[3] State v. Armstrong, 239 P. (2d) 545
[4] People v. Labrenz, 104 N.E. (2d) 769
[5] Moore v. Draper, 57 So. (2d) 648
[6] Williams v. Union County Hospital Association, 67 S.E. (2d) 662
[7] Mississippi Baptist Hospital v. Holmes, 55 So. (2d) 142
[8] Lexington Hospital, Inc., v. White, 245 S.W. (2d) 927
[9] Suwanee County Hospital Corporation v. Golden, 56 So. (2d) 911
[10] Ex parte Ochse, 238 P. (2d) 561
[11] State ex rel Freeman v. Morris, 102 N.E. (2d) 450
[12] Toms v. State, 239 P. (2d) 812
[13] Morgan v. State, 51 N.W. (2d) 382
[14] Louisiana State Board of Medical Examiners v. Beatty, 55 So. (2d) 761
[15] Lambert v. Industrial Commission, 104 N.E. (2d) 783.
[16] Orloff v. Willoughby, 73 Sup. Ct. 534
[17] Coughlin v. Commissioner of Internal Revenue, 203 F. (2d) 307
[18] U.S. v. El-O-Pathic Pharmacy, 192 F. (2d) 62
[19] Regents of the University of Wisconsin v. Dane County Humane Society, 51 N.W. (2d) 56

MALPRACTICE INSURANCE RATES

There were introduced in the House of Delegates at the Denver, 1952, meeting two resolutions having to do with the rates charged by insurance carriers for malpractice insurance. At the suggestion of its reference committee, the House asked the Board of Trustees to direct the proper Council or Bureau to make a continuing study of the professional liability insurance situation and submit a progress report to the House at its next meeting. In accordance with this request, the Board referred the matter to the Council on Medical Service which did submit a progress report at the New York, 1953, meeting.

Following this report the Board directed that the Council on Medical Service and the Bureau of Legal Medicine and Legislation continue a study of this problem and specifically authorized (1) visits to the home offices of insurance companies for the purpose of getting firsthand knowledge of the medicolegal and related problems incident to underwriting professional liability risks; (2) the undertaking of a thorough study of all activities of constituent associations, and component societies where indicated, to determine to what extent formal claim prevention and legal defense programs are in existence; (3) the continuation and extension of liaison with other medical and related organizations and with insurance carriers in an attempt to create a continuing program of reporting claims or suits involving the medical profession. The Board also suggested that all pertinent data resulting from such studies be made available on a continuing basis to the Committee on Medicolegal Problems so that the work of that Committee may be adjusted from time to time.

The Bureau of Legal Medicine has no detailed report to make at this time. It has been collaborating with the Council in this study and will continue to do so. It is assumed that any detailed report is to be submitted will be made by the Council.

Council on National Emergency Medical Service

This report of the Council on National Emergency Medical Service covers the period from Oct. 1, 1952, to Sept. 30, 1953, during which time the Council has represented the Association in connection with medical military affairs and the medical aspects of Civil Defense.

The Council is grieved to report the death of Dr. Frank H. Lahey, Boston, on June 27, 1953, who was a member of the Council from July, 1950, until November, 1952. On Dec. 16, 1952, the Board of Trustees appointed Dr. William J. Baker of Chicago to replace Dr. Lahey as a member of the Council. The Board also appointed Dr. Edgar M. Dunstan of Atlanta, Ga., and Dr. Carroll P. Hungate of Kansas City, Mo., as consultants to the Council.

MILITARY AND SELECTIVE SERVICE ACTIVITIES

Military developments in Korea and other parts of the world, combined with continuing international unrest, have necessitated increased emphasis on the procurement and allotment of physicians for the armed forces. The role of the Council in this activity was particularly heavy because of the scheduled termination of the original "Doctor-Draft" law on June 30, 1953.

"Doctor-Draft" Law.—Although this act has been one of the primary interests of the Council since its passage in September, 1950, the need for close liaison with persons responsible for its administration and for rapid communication with the profession during this year has been particularly acute. During the past six months the Council has received literally hundreds of letters, phone calls, and personal visits from physicians in service, or from those about to be called. Every effort was made to handle these inquiries as promptly and efficiently as possible and to utilize them in effecting many equitable changes in the new law.

The fall meeting of the Council held on Nov. 8 and 9, 1952, was dedicated entirely to the "Doctor-Draft" law, its administration, and the need and desirability for extending such legislation beyond June 30, 1953. Included in the attendance of some 60 persons were the Surgeons General of the Army, Navy, Air Force, and Public Health Service, the Chairman of the Armed Forces Medical Policy Council, the Chairman of the National Medical Advisory Committee to the Selective Service System, and the medical directors of the Selective Service System and the Veterans Administration, as well as representatives of all major national health associations. These officials supplied the Council with information concerning the requirements of the armed services for medical personnel and with current information concerning the need for extending the then existing law.

On Jan. 31, 1953, the Council conducted a special meeting in order further to discuss and clarify its recommendations relative to the proposed extension of the law. Another meeting was held on Feb. 28, 1953, with approximately 50 representatives of the National Medical Veterans Society in an effort to obtain the recommendations of this group.

As a result of these deliberations, the Council recommended to the Board of Trustees that the Association support a one year extension of the law and at the same time suggested fourteen specific amendments. During the months of February, April, and May the Council participated in a series of meetings with representatives of the Department of Defense and in the presentation of testimony to the Armed Services Committees of the House of Representatives and the Senate.

On June 29, 1953, the President signed Public Law 84, 83rd Congress, which extended a revised version of the law until July 1, 1955. The major changes in the new law involve greater recognition of prior military service with the result that a particular registrant may either (*a*) become exempt from liability from service, (*b*) be placed in a priority less vulnerable to immediate call, (*c*) be subject to a reduced term of service, or (*d*) effect a severance of military status within 90 days upon application or after the completion of his period of service by either being discharged or permitted to resign.

On the same day the law was signed, the Council distributed a complete résumé of its provisions to all state medical societies, to the members of the Board of Trustees and the House of Delegates, to State Medical Advisory Committees to the Selective Service System, and to all individual physicians who had previously inquired with respect to the draft law.

Civilian Participation in Military Medical Affairs.—The existence of legislation designed to obtain physicians for military service on an involuntary basis requires close civilian participation in military medical affairs and the greatest efficiency in the utilization of physicians by the Armed Forces. The Council on National Emergency Medical Service, working with medical advisory committees such as the Health Resources Advisory Committee, has been successful in effecting a reduction in the ratio of physicians in military service to troop strength from over 6.0 per 1,000 to 3.7 per 1,000. There is every indication that this ratio will be reduced to 3.0 in the near future. This means that fewer physicians will be disrupted in their civilian practice and, as a result, the continuation of present high standards of civilian medicine will be assured. Inasmuch as the medical accomplishments of the military service since the beginning of the Korean war are the best in the history of the United States, it is apparent that the reduction in the number of physicians in service has in no way impaired the quality of military medical care.

Assistant Secretary of Defense for Health Affairs.—In the interest of even greater civilian participation in medical military planning the Council recommended to the Board of Trustees that a position of Assistant Secretary of Defense for Health and Medical Affairs be created by law. It was the belief of the Council that the creation of such a position would insure a proper correlation of military and civilian medicine, especially in the apportionment of essential, highly trained health personnel. This recommendation was accepted by the Board and forwarded to the Rockefeller Committee then studying the possible reorganization of the Department of Defense. The recommendation was included in Reorganization Plan No.

6, which became effective on June 30, 1953. Since that time, Dr. Melvin A. Casberg has been appointed as the first incumbent to this position.

Survey of Physicians Leaving Active Military Service.—Just over a year ago the Council initiated a continuing survey of physicians being released from active military service. To date a total of 5,635 questionnaires have been sent to such physicians and 3,766, or 67%, have been filled out and returned. It is planned to use the results of this survey as the basis for a series of conferences with representatives of the Department of Defense and the Armed Forces in an effort to improve further the utilization of medical personnel and in the formulation of a more effective voluntary officer procurement. The first of these meetings was held at the Department of Defense on July 31 to discuss the results of the first six months of the survey.

Placement Assistance for Physicians Released from Military Service.—Another project of the Council is designed to acquaint physicians, being released from service, with existing civilian medical opportunities. This placement program has been carried on with the active cooperation of the Department of Defense and the Selective Service System and has proven to be of real service to physicians and state medical societies. As of Sept. 1, 1953, letters have been sent to 4,980 individual physicians. Of this number, 957 have requested further information.

Medical Care for Dependents of Service Personnel.—As one of its continuing projects, the Council has analyzed existing provisions of law granting medical benefits to dependents of service personnel and of proposals to extend such benefits. During the past year, a special advisory committee, under the chairmanship of Dr. Harold G. Moulton, was appointed by the Secretary of Defense to study the question of dependent medical care. The Council is reviewing the report of this Committee and will submit its recommendations to the Board of Trustees concerning implementing legislation which will be introduced early in the next session of Congress.

"Special Pay" for Physicians in Military Service.—During the past year another commission, under the chairmanship of Mr. Louis L. Strauss, conducted a study for the Secretary of Defense to determine the advisability of continuing all types of incentive, hazardous duty and special pays now provided by the armed forces. Included in this study was the special pay of $100 per month payable to physicians in uniform.

In participating in an appearance before this Commission on Nov. 30, 1952, and in appearances before the Armed Services Committee of the House of Representatives and the Senate on April 22, 1953, and May 20, 1953, respectively, the Council strongly advocated the continuance of this pay. Although the "Strauss Commission" filed an unfavorable report, proponents of the special pay, including the American Medical Association were successful in having the authority to make such payments continued until July 1, 1955, through the passage of Public Law 84, 83rd Congress on June 29, 1953.

Universal Military Training.—On July 23, 1953, the President nominated three new members to the National Security Training Commission and named Mr. Julius Ochs Adler as the chairman. The Commission has been directed to restudy and report to the President and the Congress concerning the details of a Universal Military Training Program.

On Aug. 28, 1953, the Council submitted a statement to the Commission and made extensive recommendations with respect to the following health and medical aspects of universal military training:

1. The Continuation of Pre-Professional and Professional Education for Qualified Students;
2. The Performance of Pre-Induction, Induction and Periodic Reserve Physical Examinations by Civilian Physicians or Medical Reserve Officers;
3. Extent of Medical Services to be Provided for Members of the National Security Training Corps: (*a*) Corrective Treatment and Rehabilitation, and (*b*) Medical Care During Period of Basic Training;
4. Status of Members of National Security Training Corps and Reserve Components for Veterans Medical Benefits; and
5. Source and Selection of Medical and Allied Professional Personnel.

CIVIL DEFENSE ACTIVITIES

With President Eisenhower leading the way, there has been a gradual awakening during the past year to the need for an accelerated civil defense program. In his State of the Union Message on Feb. 2, 1953, the President strongly emphasized that in the light of world conditions, civil defense preparedness had become a "sheer necessity." This acceptance of the concept that national defense must include civil defense, coupled with the occurrence of a series of natural disasters and the explosion of a hydrogen bomb by Soviet Russia, has tended to arouse public interest in the problem of medical service in the event of an emergency.

Although the medical profession as a group has completed the preparation of state and local medical disaster plans, there has not been an acceptance of individual responsibility by the average physician. It is, therefore, the intention of the Council to concentrate on this phase of the civil defense program during the coming year.

National Medical Civil Defense Conference.—On Sunday, May 31, 1953, the Council sponsored a medical civil defense conference in New York City, which was attended by approximately 80 persons, including chairmen of State Emergency Medical Service Committees and representatives of county medical societies interested in civil defense affairs. Mr. Val Peterson, Federal Civil Defense Administrator, appeared on the program and outlined his views concerning the future role of civil defense in the United States and the part which the medical profession will be required and expected to play. He praised the profession for its active interest to date and requested that the individual physician be encouraged to participate more actively.

The proceedings of the Conference have been prepared, and to date approximately 500 copies have been distributed.

Medical Advisory Committee to Federal Civil Defense Administration.—In response to an invitation from Mr. Val Peterson, the Federal Civil Defense Administrator, the Council suggested the names of physicians to serve as members of a special committee to advise the Administrator regarding the medical aspects of civil defense. On May 18, 1953, Mr. Peterson advised the Council that invitations had been issued to six of the physicians recommended. For the present, Mr. Peterson will act as chairman of the group.

Survey of State Medical Civil Defense Preparedness.—In December, 1952, correspondence was addressed to the executive secretaries of state medical associations, the chairman of state emergency medical service committees and state and local civil defense officials in an effort to bring up-to-date available information relative to the status of medical civil defense preparedness throughout the country. A compilation was prepared as of June 1, 1953, which has been published in THE JOURNAL and distributed to over 300 interested persons and organizations. The information contained in the compilation reflects the existence of state civil defense legislation; the amount of state civil defense funds and size of staff; the identity of state civil defense officials and medical civil defense leaders; the existence of a written, medical civil defense statewide plan, training manuals, training courses, etc.; the actual assignment of physicians to civil defense positions and the extent to which state plans have been tested by practice drills.

Bibliography of Articles on Medical Aspects of Civil Defense.—In the past several years an increasing number of pamphlets and articles have been published dealing with the medical aspects of civil defense. In response to a number of requests the Council has endeavored during the past several months to prepare as complete a listing as possible of this material. This bibliography, which is now being printed, has been separated into two parts. The first is a listing of the titles of articles on this subject and the second is an alphabetical listing of authors. It is intended that supplements to this bibliography will be prepared on an annual basis.

Participation in Medical Civil Defense Conferences.—The Council has actively participated in a number of civil defense meetings designed to facilitate and expedite local planning. Included are:

(*a*) Meeting of chairmen of State Emergency Medical Service Committees, Denver, Dec. 3, 1952.

(*b*) Civil Defense Conference of Association of State and Territorial Health Officers, Washington, D. C., Dec. 7, 1952.

(*c*) County Medical Societies Civil Defense Conference, Kansas City, Mo., Dec. 13-14, 1952.

(*d*) Refresher Conference, Federal Civil Defense Administration, Washington, D. C., May 6-7, 1953.

Compilation of State Civil Defense Laws.—The Council also conducted a survey of all states to determine the existence of local civil defense acts. Following the survey, which revealed that 47 states had enacted such legislation, résumés of all state laws were prepared and distributed.

MISCELLANEOUS ACTIVITIES

During the past year the Council has continued to maintain close and constant liaison with federal and state governmental agencies and with allied health organizations. All have been extremely cooperative and helpful to the Council in carrying out its responsibilities.

In addition to the preparation of the bibliography referred to above, an effort has been made to obtain, review, and distribute all pertinent medical civil defense literature.

A periodic Information Memorandum has been distributed to the members and consultants of the Council, advising them of the latest civil defense developments and furnishing them with copies of the most recent civil defense publications. A similar Civil Defense Review is dispatched on a monthly basis to a mailing list of over 800 persons, consisting primarily of the chairmen and members of state emergency medical service committees. As a further means of communication, a special section of THE JOURNAL has been dedicated to medical Civil Defense news.

In addition, the members of the Council have authored numerous articles, reports and editorials for THE JOURNAL and other health publications.

COUNCIL MEETINGS

Three full meetings of the Council were held in Chicago on Nov. 8 and 9, 1952, Jan. 31, 1953, and April 18 and 19, 1953. In addition to the Council membership and certain officers and staff members of the American Medical Association, representatives of the major national health associations, and interested government agencies were in attendance.

The executive committee of the Council met on two additional occasions, Dec. 3, 1952, and May 31, 1953, in order to consider urgent matters within the jurisdiction of the Council.

APPRECIATION

The Council wishes to express its appreciation for the cooperation and assistance it has received from the Board of Trustees and the officers of the Association and from the allied professional organizations and agencies of the federal government with which it has worked during the period covered by this report.

Report of Washington Office

The Washington Office reports to Association officials and to the profession as a whole on developments in the Capital. On request, it also advises Association councils and committees on Washington problems. At the same time the Office keeps official Washington informed of Association views and, as an agent of the Board of Trustees, it assists in efforts to get Association policy translated into action by Congress and the federal agencies.

The past 12 months represent the first full year the Washington Office has functioned under its present Director, Dr. Frank E. Wilson. Although there have been changes in the stenographic and clerical employees, the only addition to the staff was Dr. Thomas H. Alphin, as an Assistant Director. Formerly he had been with the Federal Civil Defense Administration. The other assistant director is Dr. C. H. Maxwell. Other staff members include James W. Foristel, legal advisor, George E. Connery, editor, and Malcolm D. Lamborne Jr., assistant editor. A business manager, his assistant, secretaries, and clerks bring the total staff to 17.

To help in establishing and maintaining effective relationships with leaders in Congress and the executive branch, the Board of Trustees appointed a special Federal Liaison Committee. The committee and the Washington staff worked jointly to make and keep contact with government leaders during such transitions as the organization of the Republican Congress, the creation of the Department of Health, Education, and Welfare, the reorganization of the Defense Department and Veterans Administration, the various congressional investigations, and the formation of the Commission on Intergovernmental Relations and the Commission on Organization of the Executive Branch of the Government. During the 12 months the Washington staff has done an increasing amount of work for and with the various Association committees and councils and with the Chicago headquarters staff.

The Office continued to work closely with the Committee on Legislation, supplying it with copies of new bills of medical interest and with background information on the sponsors and the special interests promoting the legislation. This committee found it convenient to meet in the Washington Office several times, as did the Council on Medical Service. The Committee on Blood, of which the Director was for a time secretary, also met in the Washington Office until the committee secretariat was transferred to Chicago. Other official American Medical Association groups with which the Office operates closely include the Bureau of Medical Economic Research, Committee on Medical Motion Pictures, Council on Industrial Health, Council on National Emergency Medical Service, and Public Relations Department. In a number of instances Washington staff members were assigned to develop reports and information on government medical programs for use by councils, bureaus, and committees.

One of the special responsibilities of the Office was to assist in arranging the special session of the House of Delegates, held March 14, 1953, to pass on President Eisenhower's plan for creating the Department of Health, Education, and Welfare.

The successful fight in the House of Representatives to defeat a "rider" to the Veterans Administration appropriations bill is an example of how the Association's views can be brought to the attention of Congress through joint action. Cooperating in the brief but important campaign were the Washington and Chicago staffs, the Committee on Legislation, the state secretaries, and a number of individual physicians. The "rider" would have established a partial pay schedule for veterans hospitalized for non-service-connected cases and would have encouraged a vast expansion of the Veterans Administration hospital system. During this critical period the Washington Office Director, under instructions from the Board of Trustees, sent a series of telegrams and letters first to all members of the House Appropriations Committee, then separate messages to all members of the House, and additional messages to leaders of the House. The A. M. A. Washington Letter was used to alert the profession, and a press release was issued outlining the Association's reasons for objecting to the "rider." The director also called on state secretaries and the Committee on Legislation, urging that all U. S. Representatives be contacted by physicians from their districts. The Chicago staff exerted its efforts in the same direction. After the House vote defeating the "rider," the Director sent a detailed, chronological summary of events to members of the House of Delegates, state secretaries, the Board of Trustees, the Committee on Legislation, and officials at Chicago headquarters.

During the year the staff continued to scan state and local society publications to learn reaction to Washington activities. Also, on request, a number of studies and investigations were made for state society secretaries. A growing tendency was noted on the part of physicians visiting Washington to stop in at the Office, either to obtain information or guidance in a particular field or to learn more about how the Association's affairs were handled in the Capital. The "doctor draft" particularly stirred wide interest, hundreds of inquiries on the subject coming by letter, telegram, telephone, and in person.

When Congress was not in session, members of the Washington staff attended and spoke at meetings of medical and lay groups in various parts of the country. Most important was a two-month tour by the Director, in which he met with medical association leaders at a series of regional meetings arranged in cooperation with the Committee on Legislation. During his travels he conferred with representatives of medical societies from 47 states.

As in the past, a share of the Washington staff's time was devoted to liaison work with other organizations in the health and social fields, such as the American Dental Association, American Red Cross, American Legion, American Hospital Association, and Chamber of Commerce of the United States. The Director is chairman of the American Medical Association's delegates to the chamber.

To improve its reporting service, the Washington Office merged and realigned its publications and purchased better equipment to speed up processing. The merger of the weekly Capitol Clinic and Legislative Bulletin into the present A. M. A. Washington Letter was decided upon only after a study lasting several months. An effort has been made, through judicious selection of material and condensation, to give the readers the same coverage they formerly received in the two publications. Although economy was not the principal motive, the elimination of one weekly publication resulted in a significant financial saving, much of it in postage. A new format also was adopted, providing larger type, a better spacing arrangement, and a new system of headlines. At the same time, provision was made for the Director each week to talk directly to readers through the medium of a brief message titled "The Week in Washington" and carrying his signature. The rest of the publication was continued as an objective report without editorial coloration. All legislation of medical interest is reported in the Letter and followed through Congress as before, with a blue streak along the right edge continuing to identify these legislative pages. In the last session, 274 bills of direct or related medical interest were reported step-by-step in Congress. The first step was to describe the bill's contents, give the date of introduction, and identify the author and name the committee to which the bill was referred. Subsequently the Letter described how the particular legislation fared in committees and in Senate and House. The final step, in the case of bills passed by Congress, was to report date of their signature by the President and the Public Law number assigned to them.

In addition to reporting in the Washington Letter on bills introduced, the Office also sends a more detailed analysis of new bills to members of the Committee on Legislation, the Board of Trustees, and a list of Association officials. Following each meeting of the Board of Trustees at which federal legislation is considered, the Washington Office sends to its complete mailing list a report on the Board's actions on various bills.

A new system was adopted for reporting on special subjects that do not readily fit into the format of the Letter. Whereas formerly such information went out as "Comments" or "Special Bulletins," all of it now appears in the form of Special Reports, where the same policy of factual writing and brevity is observed. Twelve special reports were issued.

As in past years, a number of state and local medical journals reprinted news items and special reports published by the Washington Office. For example, a large number reprinted the special report on the "doctor draft," issued as soon as the new law had been signed by the President. Most journals give the Washington Office credit as the source in reprinting material.

The Washington Office supplies The Journal with a weekly report on Washington news. Although material covered in general is the same as that presented in the Office's news letter, the manner of presentation is considerably different. More background material is included in The Journal news, and there is less emphasis on the often complicated legislative issues. New bills are described for the medical profession in a special column, "Federal Medical Legislation, written by the Washington staff and appearing regularly in The Journal when Congress is in session.

Constant efforts are made to restrict news letter circulation to those who are particularly concerned with or interested in Washington developments. Early this fall, for the second time in two years, the mailing list was screened to eliminate readers who were making the least use of the material. It was anticipated that in this way the publications would be made more effective.

Until June the Washington Office had not engaged in press relation activities, except for answering inquiries from writers. In June, after a conference with officials from Chicago headquarters, it was decided to start news releases on a limited scale in the Washington Office. Since then several press releases have been issued by the Office based on testimony of Association spokesmen before congressional committees or explaining the Association's position on legislative questions.

FEDERAL LEGISLATION

The following important medical legislation was before Congress this year:

A Department of Health, Education, and Welfare was created under the reorganization act and became effective April 11, 1953. This full-fledged department, which replaced the Federal Security Agency, gives the new Secretary cabinet status. The House of Delegates, at a special meeting, decided not to oppose the plan, but to maintain the Association's long-standing objective of a Department of Health. Meanwhile, the Association is closely observing how the new department operates. Important in the reorganization was the appointment of an assistant to the Secretary who advises the Secretary on all programs of the department regarding medical matters. Dr. Chester S. Keefer, Brookline, Mass., was sworn in on Aug. 12 to fill this position.

The "Doctor-Draft" act, due to expire last June, was extended for two additional years and amended to remove certain injustices. Shorter periods of obligated military service were effected and previous service not heretofore recognized will in the future be credited. The American Medical Association kept close touch with this situation, and many of our recommendations were accepted.

The Social Security Act became the target of a study which promises broad revisions. A special subcommittee of the House Committee on Ways and Means, under the chairmanship of Rep. Carl T. Curtis of Nebraska, will be studying revisions of the act throughout the balance of this year. The subcommittee expects to make recommendations during the next session of Congress. The Administration is sponsoring a bill to provide for coverage of certain self-employed persons, including physicians, but this was introduced too late for any action. The Association's official position is in opposition to such extension.

Bills of a medical nature in the field of veterans legislation were numerous. Most important were several dealing with Veterans Administration policy regarding hospitalization of non-service-connected disabled veterans. A subcommittee of the House Veterans' Affairs Committee held lengthy public hearings on this subject, the result of which will be felt next year either in the form of some affirmative action by Congress or a tightening up of the loose policy in admitting for hospitalization veterans with non-service-connected disabilities without looking into ability to pay. The attempt to set up a partial payment plan for non-service-connected cases by means of a rider to the Veterans Administration appropriations bill was made late in the session. The issue came up unexpectedly, and opposition had to be organized rapidly. As noted above, the House voted to drop the rider.

Much interest has been generated in a proposed constitutional amendment respecting treaties and agreements with foreign countries. The constitutional amendment resolution proposed by Senator Bricker and joined in by 63 other Senators has much popular support, including that of the American Medical Association. Lengthy public and closed hearings were held last session, but up to adjournment Senator Bricker and administration representatives could not agree on compromise language. Just before the session closed Senator Knowland, the majority leader, advanced a new suggestion. However, this was not acceptable to Senator Bricker, who said the safeguards are not adequate. Presumably efforts to reach an agreement will be resumed next session.

Pension plans of the Jenkins-Keogh type were discussed during general tax hearings held by the House Ways and Means Committee after adjournment of Congress. The Association was joined with virtually every other national association representing self-employed persons in urging some tax consideration for the self-employed on a parity with existing employee pension plans.

During the tax revision hearings it was urged that changes be made with respect to health expense deductions from income so that individuals might be encouraged to provide against the cost of medical and hospital care in a voluntary manner. Another facet of the same hearings was the subject of tax exemption for postgraduate courses in education. The Association has been urging Congress to permit deductions for physicians who further their medical knowledge with additional schooling.

One of the few "must" bills of the President, restoring to the Food and Drug Administration the right to inspect factories, passed in the closing days of the session. An attempt to authorize Food and Drug agents to inspect prescription files in drug stores was defeated. Several of the drug associations and the American Medical Association had opposed this unnecessary grant of power.

Subjects of former major concern to the Association, given little or no consideration this session, included national compulsory health insurance, federal aid to medical education, free school health services, subsidization of local public health units, and emergency maternity and infant care (EMIC) for families of military personnel.

Two important study commissions authorized by Congress are: (*a*) Commission on Intergovernmental Relations, which will restudy proper functions of federal and state governments in fields of public welfare, health, roads, school lunches, and a host of other federally subsidized (in part) state programs; and (*b*) Commission on Organization of the Executive Branch of the Government, which will look into efficiency in government programs and possibly suggest elimination of certain unnecessary functions. Clarence E. Manion, former Dean, Notre Dame Law School, is chairman of the first group, and Hon. Herbert Hoover of the second.

The next session of Congress certainly will not be devoid of medical legislation. Commitments already made by the administration mean that amendments to the social security law extending coverage to the self-employed, including physicians, will come up for decision. In the same connection, there may be action on the bills to permit the self-employed to defer income tax payments on money paid into retirement funds, as well as action on the proposals to allow deductions for postgraduate education costs. The House Veterans' Affairs Committee may have some legislation to propose on care of non-service-connected cases by the Veterans Administration. The two newly formed commissions may offer bills with medical implications before the next session closes, and it will be surprising if Congress does not take some definite action on the long-delayed Bricker resolution.

Report of Bureau of Medical Economic Research

During the past year the Bureau has published Bulletins 92 to 96 and miscellaneous publications M-70 to M-77. Approximately 120,000 copies of these and earlier bulletins and 120,000 copies of these and earlier miscellaneous items were distributed during the year. The number distributed is again smaller than in the previous year, which probably reflects a continuation of the decline in public interest in controversial questions in the field of medical economics.

Approximately one year ago Everett L. Welker, Ph.D., Associate in Mathematics for five and one-half years, resigned to accept a position in mathematical research in the Department of Defense. On July 15, 1953, he was replaced by Mr. John J. Raymond, Associate in Sociology. A considerable turnover in other personnel, due almost entirely to family and personal reasons, has occurred during a period when the demand for I. B. M. services by committees, councils, other bureaus within the American Medical Association, and outside agencies is increasing.

Since a considerable portion of the Bureau's work is represented by publications, a short summary of each of these publications constitutes the bulk of the annual report. Bulletin 92, "Mortality Trends in the United States, 1900-1949," is an analysis of mortality changes in the general population in the 20th century, of changes in life expectancy and in the age-specific mortality rates by cause of death, and of the decline from national to local status of the problems of maternal and infant mortality. This bulletin involved a considerable amount and variety of computations and has already become a basic reference in the field of vital statistics.

President Truman's Commission on the Health Needs of the Nation completed its study during 1952, but its five volumes were published over a period of several months. The Director of the Bureau was requested to prepare a detailed analysis of each of the five volumes, as he had been three years ago to prepare an analysis of the Ewing report—Bulletin 69, to supplement the statement of the Board of Trustees on volume 1, "Findings and Recommendations" (*J. A. M. A.*, Jan. 24, 1953, page 302-303). This analysis was published in two parts, because all five volumes were not published simultaneously; the analysis of volumes 1, 4, and 5 is Bulletin 93 and of volumes 2 and 3, Bulletin 93A. The general conclusions were that the Truman Commission did not recommend a middle-of-the-road program and did not accept the voluntary health insurance way to the solution of the health problems of our nation. The Director defended his conclusions during the two-day discussion of the report sponsored by the National Health Council in March, 1953. In this task he was assisted by Charles E. Bradley, Ph.D., Associate in Economics.

Bulletin 94, "Distribution of Physicians by Medical Service Areas," is now in the process of being published. The 64-page map supplement, Bulletin 94A, was published during May, and an exhibit based thereon was shown at the New York meeting. This study was initiated during the Director's first year of service, 1946-1947, for the specific purpose of providing a substitute for the traditional and misleading population-physician ratio by county. For the sake of brevity, only three major conclusions will be mentioned: (*a*) Outside a radius of 25 miles from the closest physician in active private practice is ⅙ of the land area of the United States but only ⅙ of 1% of its population; (*b*) the population-physician ratios of the 75 medical service areas (total, 757) which had more than 2,000 persons per physician in active private practice in April, 1950, could have been reduced to a maximum of 2,000 if only 400 large-city physicians had been relocated in these 75 areas; (*c*) in general, the distribution of physicians in relation to the persons they actually serve is far better than is indicated in previous studies of physician distribution. The Director regards this study of medical service areas as a benchmark in the field of medical economic research.

Bulletin 95, "Old and New Base Periods for Medical Care Price Indexes," presents a detailed explanation of the changeover from the so-called "old" Consumer's Price Index to the new version. The adoption of a new base period, 1947-1949, to replace the old base period, 1935-1939, has and will produce some rather ridiculous results; the current prices of women's cotton housedresses, men's street shoes, and haircuts are made to appear cheap and rents and medical care high in price. The Bureau has suggested, therefore, that at least once each year the U. S. Bureau of Labor Statistics be required to publish and to publicize the indexes on both the old and the new base period in order to destroy the illusion of medical care prices being higher than the general level of consumer prices, an illusion created by the shift to a new base period. Several weeks before publication of Bulletin 95, preliminary estimates of several indexes were furnished to the Marshall-Hester studio for use in the new American Medical Association film, "Operation Herbert." This motion picture is built around Bulletin 87, a copy of which actually appears in the picture. The Director and members of the staff assisted in the preparation of the film at many stages, from checking the script to advising on the actual filming. The Director believes that this and other methods of popularizing the research findings of the Bureau should be encouraged.

Bulletin 96, "Pensions for the Self-Employed and the Pensionless Employed," presents the testimony of the representatives of the American Bar Association and the American Medical Association on H. R. 10 and 11 before the House Committee on Ways and Means, Aug. 12, 1953. These four statements, which are generally supplementary, provide a comprehensive and detailed explanation of the Jenkins-(Reed)-Keogh bills to establish a voluntary pension system for the self-employed and the pensionless employed. These hearings culminate many months of activity by the Director and the representatives of other national professional organizations in a loosely knit group called the Coordinating Committee on Pensions for the Professions and the Self-Employed. The enactment of this measure would establish individual retirement plans toward which the government would make no contribution; only the individual himself would make payments. This is its great merit. Five to 10 years after passage of H. R. 10 the contrast between these individual pension plans and the Old Age and Survivors' Insurance pensions would have a sobering effect on the headlong rush toward security. Under the former, every self-employed and pensionless employed person who cared to participate would pay his own way toward retirement. Under the latter, persons obtain pensions at cut-rate prices because the OASI taxes are mere token payments. Many activities of the Director and of the members of the Bureau staff during the past year have been directed at driving home this major point about H. R. 10 to the members of the medical profession, other professions, the House Ways and Means Committee, its technical staff, and certain segments of the public. The most disappointing feature of this work has been the failure to make it clear to the 32 million pensionless employed and the 11 million self-employed that the American Medical Association is fighting for a reasonable opportunity for them to save for their old age under favorable tax conditions. The Director regrets that in his position he has found no effective way to inform these 43 million—mostly "small" persons—of the efforts the Association is making in their behalf.

The shorter publications of the Bureau are usually multigraphed or mimeographed; they are designated by an "M." M-70 is a reprint of the section of the proceedings of the House of Delegates relating to blood bank matters, December, 1952. M-71, a long editorial, "Three Challenges of the Future," discusses the changing meaning of socialism, the effect of aging on the voting population, and the need for voluntary health insurance to serve an aging population. M-72 concludes that medical debt is currently about 4% or 5% of the total of consumer debt, a percentage far below that suggested in a prominent news weekly of Oct. 17, 1952. M-73, "The Norris Panacea," is a critical analysis of the proposals by Dr. Norris to let businessmen solve the economic problems of medical care. His proposal is a throwback to the majority report of the Committee on the Cost of Medical Care of two decades ago. M-74 is a collection of five papers—by Cooley, Schmidt, Miller, Hayden, and Dickinson—on financing a health program for America, presented at the last panel held by President Truman's Commission on the Health Needs of the Nation. These five papers present abundant evidence that the Commission heard but ignored the recommendations of persons it considered sufficiently well informed on the subject to invite to the panel. The Director in his paper entitled "What We Get For What We Spend For Medical Care" criticized the Commission for placing so much stress on what people spend for medical care without placing equal stress on what they get for what they spend. M-75, "How Far From a Physician?" is a reprint from the Organization Section of The Journal announcing the publication of Bulletin 94A and calling attention to a few of its features. M-76, is a reprint of the section of the Proceedings of the House of Delegates, June, 1953, dealing with blood bank matters. Incorporated into the report of the Committee on Blood to the House of Delegates was a table showing the results of the Bureau's 1952 blood bank survey. In contrast with the two earlier surveys of blood banking in the United States by the Bureau, there will be no separate bulletin on the 1952 survey. Presumably this is the last item in the series, as future publications of this sort probably will be handled by the Secretary of the Committee on Blood. M-77, providing new data for 1952 on personal consumer expenditures for medical care, is another item in the long series on the medical care dollar.

Other Activities

A total of 23 items were published in The Journal, of which nine were book reviews. Four articles or papers were published elsewhere. The Director made 11 speeches during the year, including seven to medical societies; he discussed the fundamental principles of insurance at the 1953 meeting of the Blue Shield Commission.

The I. B. M. section again prepared the tables for the annual hospital survey and the internship and residency survey reported in The Journal by the Council on Medical Education and Hospitals. The section has continued to do the accounting on gifts to the American Medical Education Foundation. Some of this work is done every week. Almost every day work is being done for the Membership and Subscription Department. The I. B. M. system of that department is an outgrowth of the Bureau's I. B. M. section, and the large, expensive machines in the Bureau's section handle all the department's tabulating work. I. B. M. operations for special studies by the Council on National Emergency Medical Service and by the Committee for the Study of Relations Between Osteopathy and Medicine, were performed during the year. I. B. M. services were also rendered, with the approval of the Secretary and General Manager, to Alpha Kappa Kappa medical fraternity, United States Public Health Service, American Nurses' Association, New York Heart Association, Association of American Medical Colleges, Joint Commission on Accreditation of Hospitals, and Commission on Financing Hospital Care.

The Wisconsin section of the I. B. M. deck of punched cards have been reproduced with certain columns left blank. The State Medical Society of Wisconsin will use this deck as a basis for keeping its membership and possibly its Blue Shield records. The Bureau will exchange information by reproducing punched cards for changes, additions, and deaths for the Wisconsin society. If the experiment proves successful and the procedure practical, other state societies will be accommodated.

The I. B. M. operations require the services of well over half of the Bureau staff and approximately half of its budget. The interdepartmental projects have, however, provided a welcome opportunity for close cooperation with other departments.

Report of Bureau of Exhibits

The Scientific Exhibit

DENVER CLINICAL MEETING

There were 71 scientific exhibits at the Denver meeting, originating in 28 cities from coast to coast and from Minnesota to Louisiana. The exhibits were selected for their interest to the physician in general practice and attracted attentive audiences continuously throughout the week.

Special features were very popular. The special exhibit on fractures was conducted by Drs. Gordon M. Morrison, Boston, Ralph G. Carothers, Cincinnati, and Herbert M. Virgin Jr., Miami, assisted by 32 surgeons. It occupied three booths. The special exhibit on artificial respiration was presented by the Council on Physical Medicine and Rehabilitation and the American National Red Cross, under the chairmanship of Dr. Archer S. Gordon, Chicago. Manikin demonstrations on the problems of delivery were carried on at stated intervals by a group of Denver obstetricians. A group of exhibits emphasized practical office procedures in anesthesiology, cardiology, dermatology, endocrinology, gynecology, laboratory work, pediatrics, and proctology. Other exhibits covered many phases of modern medical practice.

The Scientific Exhibit at the Denver meeting was a distinct success, eliciting many laudatory comments. The Clinical Meeting is gradually developing a character of its own, rather than being a small replica of the Annual Meeting. Being held in the smaller cities, it gives an opportunity for many physicians to attend who usually do not go to an Annual Meeting; 98% of the Colorado members registered. All of these spent much time studying the exhibits and watching the demonstrations at Denver. A pattern was set for future scientific exhibits.

Medical motion pictures were shown in an area adjacent to the exhibits, 15 films being presented once each day. A feature was a three dimension color film that attracted large audiences. This program was arranged by the Committee on Medical Motion Pictures.

NEW YORK ANNUAL MEETNG

The Scientific Exhibit, in spite of cramped quarters and difficult access, was visited by most of the 48,000 persons attending the meeting. There were 260 exhibits, selected from more than 500 applications, resulting in material of high caliber and great teaching value.

The special exhibit on fractures, under the guidance of the Fracture Committee, initiated a somewhat different method of presentation in addition to the plaster demonstrations. As in the past, a fine group of demonstrators carried on throughout the week. The special exhibit on fresh pathology attracted large crowds continuously. Dr. Frank B. Queen, Portland, Oregon, and Dr. Milton Helpern, New York, were assisted by an outstanding group of pathologists. The special exhibit on artificial respiration, with Dr. Archer S. Gordon, Chicago, as chairman, was shown for the third time. The New York Police Department, the American National Red Cross, and other groups assisted. The Section on Pediatrics presented an exhibit symposium on the prevention of childhood accidents that had popular appeal.

The 20 sections of the Scientific Assembly arranged groups of exhibits dealing with their respective specialties. Care was taken, however, that each exhibit was broad enough in character to be of interest to physicians in other specialties as well as to those in general practice. The largest group was that of the Section on Internal Medicine, with 23 exhibits selected from 54 applications for space. The smallest group was the Section on Ophthalmology, with 5 exhibits selected from 11 applications. Many excellent exhibits of necessity were omitted because there was not sufficient room on the fourth floor of Grand Central Palace.

The Scientific Exhibit was open for 40 hours during the week, requiring great stamina for those demonstrators who did not have associates to relieve them. In some instances, two or three demonstrators alternated, while in many booths two or more demonstrators were continuously on duty. The program carried the names of 825 participants in the Scientific Exhibit, to which number was added some 500 technicians, nurses, and other assistants who in one way or another took part in the meeting. The medical profession is deeply indebted to all of those persons who contributed so liberally of their time, energy, and knowledge.

The representatives to the Scientific Exhibit, elected by the Sections, gave a great deal of assistance to the Committee. For the first time the Representatives met with the Section Secretaries in the preceding Fall with much mutual benefit. It is the desire of both the Committee on Scientific Exhibit and the Council on Scientific Assembly to coordinate the programs of the two groups as closely as possible.

There were 44 awards for exhibits, consisting of 6 medals, 21 certificates of merit, and 17 honorable mentions. The Committee on Awards consisted of Drs. William B. Condon, Denver, chairman; S. W. Donaldson, Ann Arbor, Mich.; Robert M. Stecher, Cleveland; Ralph M. Tovell, Hartford, Conn., and Robert J. Joplin, Boston.

Motion pictures, arranged by the Committee on Medical Motion Pictures, were shown at the Biltmore Hotel. There were 30 films arranged on a definite schedule, each film being shown at least twice during the week. The attendance was good with the room overflowing in some instances.

Cooperation with Council on Scientific Assembly

Close cooperation has been maintained between the Bureau of Exhibits and the Council on Scientific Assembly. Representatives of each group have attended all meetings of the other group, and much information has been exchanged.

The task of preparing meeting rooms for Sections and for general meetings has been continued with the advice of the Council and the Secretary's office. At the Denver meeting, several rooms were constructed in the exhibit hall and furnished with the necessary appointments. At the New York meeting, rooms were widely scattered, making their upkeep an arduous task.

Association Exhibits

Exhibits depicting the activities, aims, and purposes of the various councils and bureaus of the Association have demonstrated their popularity by demands from many sources. Such exhibits are prepared with the advice and guidance of the departments concerned and are sent to state and county medical societies or to groups approved by such societies.

Association exhibits fall into two groups: (1) medical exhibits for medical societies and other scientific groups, and (2) health exhibits for fairs, expositions and other public gatherings. There are now 50 subjects covered by Association exhibits, 12 of which have been added during the last year.

Several of the exhibits are in duplicate to satisfy the demand. The most popular subject continues to be "Testing the Drinking Driver," a joint exhibit of the Committee on Medicolegal Problems of the Association and the Committee on Chemical Tests of the National Safety Council. Some lightweight exhibits have been prepared during the year that can be shipped long distances at nominal costs. These are used by the Woman's Auxiliary, Parent-Teacher Associations, and other groups with a relatively small attendance. Association exhibits were scheduled for showing during the calendar year in 31 states and in Canada. The exhibits were used by 30 state medical societies and 29 county medical societies. All groups and agencies combined used the exhibits 206 times for a total number of 591 showing days. Other new exhibits have been designed and plans drawn for their construction.

Museums

The House of Delegates adopted a resolution in 1940 endorsing health museums and instructing "the Board of Trustees, officers and employees to give all possible support to such museums, wherever they may be developed in conjunction with local medical organizations." Such museums are of two types: The independent health museum as found in Cleveland and Dallas, and the science museum, or natural history museum, which devotes a part of its space to health exhibits. There are a considerable number of the latter, the most notable example being the Museum of Science and Industry in Chicago. Exhibits installed some years ago are still being shown at the health museums in Cleveland and Dallas, the Museum of Science and Industry in Chicago, and the Army Medical Museum in Washington. Conferences have been held concerning health exhibits at the Smithsonian Institution in Washington and elsewhere. The opportunity for health education which such institutions offer is almost beyond conception. Millions of visitors come in an inquiring frame of mind and spend long hours of studious observation. The museums of the country are recommended to the county medical societies for health education at a very small cost per capita.

Committee on Medical Motion Pictures

The demand for motion pictures has continued to increase. Numerous conferences have been held with members of the headquarters staff as well as with outside agencies on matters pertaining to this method of instruction.

Film Library.—Nineteen new films were added to the motion picture film library. A revised catalog listing a total of 92 subjects was prepared and distributed to county and state medical societies and to medical schools. Shipments of 2,205 films were made to various medical groups. Eighty-seven per cent of all medical schools in the United States used these films at some time during the year. Service charges totaled approximately $6,750.

Film Reviews.—New films have been reviewed by competent specialists, and such reviews have been published in The Journal. A supplement to the second revised edition of the Booklet of Reviews was published in January, 1953, including all reviews appearing in The Journal during 1952. A cumulative index, covering all reviews published, was prepared and copies were sent to each state medical society and medical school. Copies were also made available to the county medical societies.

Films for Television.—A supplement to the List of Health Education Motion Pictures Cleared for Use on Television, listing 39 films, was prepared and made available on April 1, 1953.

Annual and Clinical Meetings.—The Committee on Medical Motion Pictures was responsible for the motion picture program at the 1953 New York Meeting, with 30 films shown on a definite schedule, and at the Denver Meeting, with 14 films. All films were previewed by competent authorities before they were put on the program.

Hospital Survey.—At the request of the Committee, several questions concerning the availability and use of medical motion pictures and projection equipment were included in the 1952 Hospital Survey of the Council on Medical Education and Hospitals. An analysis of the results indicates that most hospitals are now equipped with 16 mm. motion picture projection equipment; those lacking such equipment usually fall into the group having less than 100 beds. A total of 813 hospitals indicated that motion pictures were used "often" in medical staff meetings; 3,081 reported an occasional use; 1,899 did not employ this method; and 872 did not reply. In response to the question regarding the use of films now in comparison with five years ago, 3,109 hospitals stated that motion pictures are now being used more extensively, 79 indicated less frequent use, 1,093 reported no change, and 2,384 did not respond.

Special Projects.—The Secretary of the Committee served as Honorary Chairman of the Section on Audio-Visual Teaching of the 10th National Assembly of Surgeons, Mexico City, Dec. 9 to 15, 1952. A paper was presented on the use of motion pictures and television in medical education, and 15 medical motion pictures from the United States were shown on the official motion picture program. At the request of the Chief of Field Party of the Institute of Inter-American Affairs, the secretary visited the new medical school at Vera Cruz where the subject of medical motion pictures was discussed with the dean and members of the faculty.

The Secretary of the Committee attended the first World Conference on Medical Education in London and addressed the Section on Techniques and Methods of Medical Education on the subject, "The Effectiveness and Use of Motion Pictures in Medical Teaching." Other meetings which he addressed are as follows:

Edinburgh Film Festival, Edinburgh, Scotland.
Medical Section of the Royal Photographic Society, London.
Motion Picture Committee of the British Medical Association, London.
Scientific Film Association, London.

The Committee prepared extracts of the State Department Catalog of Films Available for Overseas Use covering the subjects of health films and medical films. The extracts were made available to interested medical groups in Great Britain.

A film program was arranged for the thirteenth Annual Congress on Industrial Health, as well as for the third annual convention of the Student American Medical Association. Among the films shown at the latter meeting was a première of "El Nuevo Medico" (The New Doctor) produced in Mexico. This film program was so well attended that plans are being made to continue it at the next S. A. M. A. convention.

MISCELLANEOUS ACTIVITIES

Numerous miscellaneous activities have been carried on by members of the staff. Lectures, conferences, articles and books for publication, and book reviews have been undertaken as time has permitted. As formerly, the Bureau of Exhibits is integrated into all of the activities of the Association.

Report of Council on Rural Health

The Council on Rural Health has had the busiest and most productive year of its existence. It has held three meetings of the entire Council and five meetings of the executive committee in order to meet contemporary needs, to assay particular situations, and to plan for future activities. In a nationwide effort that has developed out of eight years of experience, it has become increasingly important that the leadership the American Medical Association has given to such a multiphasic program be kept alert and ahead of lay organizations that are interested and active in this field.

The Council has continued to enjoy the cooperation and support of its Advisory Committee members and their parent organizations. There are many striking illustrations across the nation, showing the local application of suggestions made at National Conferences on Rural Health, or in conferences held with the constituent organizations of the members who make up the Advisory Committee. Where a few years back the National Conference on Rural Health was one of the chief activities of the Council, there are now added many state rural health conferences and scores of local activities in strictly rural communities. This has come out of lay organizations learning that organized medicine is sincere in its intent to assist them with their health, hospital, and medical care problems. It also comes from the fact that physicians are learning that lay leadership sincerely desires their advice and guidance in these matters. It is a mutual confidence and respect that is growing out of teamwork.

In addition to demands on the Chairman's time in the routine affairs of the Council, he has accepted requests from many state and local groups for public appearances to discuss the rural health movement.

After numerous requests from many lay organizations and medical leaders for some medium of exchange for ideas and news on rural health activities, the Council has started publication of a newsletter called "Parade of Progress." One issue of the three proposed for 1953 has been distributed, and the other two will be sent out in the last quarter of the year. The newsletter is published only as enough worth while items are accumulated to keep it interesting and effective. The first issue has met with wide approval.

Two more state medical associations have appointed rural health committees this year, making a total of 45 states that have a committee on rural health or some similar committee with rural health as a responsibility. Arizona, Rhode Island, and Massachusetts do not have such a committee. In most of the states the committees are active, with many of them showing outstanding accomplishments.

Statewide one and two day rural health conferences have been held in 15 states in which the state medical association's Committee on Rural Health and its executive staff took the leadership, getting the cooperation of lay groups as co-sponsors of each of the events. These states are North Carolina, Kentucky, Michigan, Arkansas, Oklahoma, Montana, Washington, Louisiana, Missouri, Texas, Ohio, Oregon, Indiana, Wisconsin and Colorado.

Attendance at these meetings has run from 150 to 700. At most of them there is good representation of actual rural leadership. It has been observed that the balance between farm leadership, the medical profession and lay professional workers, such as health department and extension service employees, has been good. The Council would like to see more physician participation in some of the conferences, but on the whole it has been good.

In 12 other states, the Committee on Rural Health of the state medical association is either participating in the work of the state rural health council or has invited lay farm groups to meet and work with them in conferences of various kinds during the year. In several of these, this activity has been very similar to a state rural health conference except on a smaller scale. They have been exploratory or planning in nature, and will lead to broader and more intensive activities. These states are Pennsylvania, Illinois, North Dakota, Virginia, Mississippi, Wyoming, South Carolina, Minnesota, Idaho, Tennessee, Iowa, and California.

In each of the other 18 states, the rural health committees have carried many different types of activities designed to bring about both better health and medical care conditions in the states and a better understanding with the rural lay public. In South Dakota, for example, a pamphlet showing medical service areas was prepared by the rural health committee about three years ago. The pamphlet has now been revised and shows the results of the physician placement program. Assistance has been given local communities not only in obtaining physicians but also in building hospitals to meet local requirements.

It is not possible to cite all the types of activities being carried on in the states, counties, and communities. A few illustrations will perhaps suffice. It will be noted that these illustrations differ from state to state; they are adapted to fit the peculiar needs of the states, yet all are pointed to the same goal, "to help rural people help themselves to better health." It is the conviction of the Council that herein lies the strength of the rural health program. No attempt is made at uniformity because needs vary from community to community throughout the country.

In the midwestern region—Michigan, Ohio, Illinois, Indiana, and Missouri—the procurement, training, and placement of rural physicians has been a major and common project. Through scholarships for medical students, lecture courses on rural practice in the medical schools, and actual assistance in the placement of physicians in rural areas, the situation is steadily improving.

In the North Atlantic area, composed of the states of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New Jersey, New York, Delaware, and Pennsylvania, the medical care and hospital problems of rural communities are not so acute. However, the gaps are rapidly being filled and more attention is now being given to prepaid medical care, problems of rural sanitation, and similar activities.

With the rapidly growing population which is purchasing small tracts of land in the open country on which homes are being built, many health problems in connection with water supply, sewage disposal, and other sanitary measures are being created. It is felt that these have to be taken care of well in advance to avoid difficulties later.

In the Central Atlantic area, composed of the states of Maryland, Virginia, West Virginia, North Carolina, South Carolina, Kentucky, and Tennessee, the program has varied from an intensive county study and analysis, by the Rural Health Committee of the North Carolina medical association, and the concentrated physician placement program of the Virginia Council on Health and Medical Care, to the beginning efforts and conferences of the Tennessee and South Carolina medical associations. Progress is good in the region. Kentucky is still developing its outstanding medical scholarship and placement programs and is extending its state rural health conference back to the rural community.

In the Southeastern region composed of Arkansas, Louisiana, Mississippi, Alabama, Georgia, and Florida, the states have widely differing programs. All states have active rural health committees and organizational leadership in each county of the state.

In the Southern Great Plains region, composed of Texas, Oklahoma, and Kansas, the rural health program has stepped up in intensity. The Texas Medical Association's Rural Health Committee completed a study of physician location and population and has presented it to the Texas Rural Health Council. The Committee has developed preceptorship programs with the medical schools, similar to that in Kansas, and has developed an orientation day similar to that of Nebraska for senior medical students with two of the state's medical schools. Oklahoma has held its first rural health conference, with gratifying response, and has established excellent public relations with most of the rural organizations.

In the North Central Great Plains region, composed of North Dakota, South Dakota, Minnesota, Wisconsin, Iowa, and Nebraska, an excellent but varied program in rural health has been developed. In most of this region there is a rather difficult situation with certain radical, so-called liberal urban and rural groups. By considerable patience and courage the medical leadership has succeeded in building realistic programs to meet the needs of the people.

In the Rocky Mountain region, composed of New Mexico, Colorado, Wyoming, Utah, and Montana, most gratifying progress has been made in rural health programs. Each state in the region has activities going on in the broad fields of rural health, medical care, and safety. Problems such as training nurses, strengthening the medical education program, physician placement, and prepayment insurance are receiving special attention.

In the Pacific Northwest region, composed of Washington, Oregon, and Idaho, two excellent state rural health conferences have been held, Oregon holding its third and Washington its first. The working relationship between the medical profession and the lay organizations in these states is exceptionally good.

In the Pacific Coast region, composed of California, Arizona, and Nevada, the problem of migrant and "fringe area" agricultural workers continues to be a major problem. California has made splendid progress on this and many other problems.

Most of the activities mentioned in the foregoing have come about as a result of the eighth National Conference on Rural Health. Many rural leaders point out that they obtained their original inspiration and information from one or more of these conferences. In the opinion of the Council this has and continues to be an important function. It still continues its important function in finding areas of agreement, out of which state and local groups may begin their own activities, and which the Council follows up throughout the year in numerous contacts.

In addition to the regular routine activities of the Council office, there continues to be maintained a close working relationship with all state medical societies, state rural health committees, or committees handling rural health matters, as well as national organizations including farm groups. This includes attendance at national meetings of farm organizations, state rural health meetings, and special assignments delegated by the Chairman and Council members. It also includes personal contacts with leaders of women's organizations, suggestions and assistance for the formation of rural health programs, and program planning for and cooperation with all interested lay groups.

In connection with the eighth National Conference on Rural Health at Roanoke, Va., Feb. 26, 27, and 28, a preconvention flier was prepared and 2,000 copies were sent to both professional and lay leaders. This was in addition to the approximately 4,000 personalized invitations and programs that went to the entire mailing list, containing detailed information on the National Rural Health Conference. Numerous items of information have been collected and distributed to interested groups during the year, and approximately 19,000 pieces of literature of various types and descriptions dealing with rural health activities have been sent out from this office. In addition there have been prepared and distributed approximately 4,000 copies of the digest of the eighth National Conference on Rural Health.

After several sites for the 1955 Conference were investigated, Milwaukee, Wis., was selected as the location of the tenth National Conference on Rural Health and the dates chosen are Feb. 24, 25, and 26. In all probability the 1956 Conference will be held some place along the West Coast or in that vicinity.

The eighth National Conference on Rural Health in a number of ways was the best conference yet held. It had the largest registered attendance, and there was more active interest and participation. Moreover, it was given the widest coverage by the press, radio, and television services than any other of the conferences. The Department of Public Relations has always given their wholehearted support, and this was especially true in this case. The Public Relations Department contacted the press, radio, and television services more than two months in advance of the meeting and invited them to sit with the Executive Committee and staff of the Council at a meeting in Roanoke early in January. Two items on this conference program had an unusually gratifying reception, both at the time of the conference and since. The paper given by the Chairman entitled "Looking Back to Look Ahead," in which he reviewed past activities and outlined future hopes of the Council, has been in wide demand by groups all over the nation. The paper by the Vice Chairman of the Council on prepayment insurance has likewise been popular and in heavy demand.

The Council is especially fortunate in having the farm organization leadership serve as an Advisory Committee. The past pleasant association with this group, representing the American Farm Bureau Federation with its more than 1,500,000 members, the National Grange with its approximately 800,000 members, the National Milk Producers Federation with its hundreds of associated groups, the Agricultural Extension Service of the Land Grant Colleges and Universities with its staff in every agricultural county in the nation, the Agricultural Editors Association with the millions of farm readers, and the Farm Foundation with its wide recognition in agricultural circles, has been continued during the year. In the past the members of this Advisory Committee have advised the Council on the preparation of the National Conference programs and on current problems. This year a wider use of their experience and knowledge of rural conditions is being made. Each of the representatives was interviewed in the month of August prior to a two-day meeting on Sept. 11 and 12, at which time the developments of the past eight years and the changing agricultural economic situation were discussed. The Council is making a continuing and comprehensive reappraisal of its program.

For the purpose of exchanging ideas, a special meeting has been arranged with the Board of Directors of the American Farm Bureau and the Extension Committee on Organization and Policy. It is hoped that other organizations can be similarly contacted next year.

The Field Director has maintained constant liaison with as many of the rural organizations of the nation as has been possible. Of necessity some of this work had to be done by correspondence rather than in personal contacts. In addition to the formal meetings attended and addresses given, an occasional letter or personal contact is made to keep these groups advised on the many activities of the American Medical Association, the state medical association, county medical societies, and individual physicians. The Field Director has studied the whole program of the American Medical Association and worked within the framework of its policies. He has stayed close to members of the Council and especially the Chairman, with whom frequent consultations have been held. He has also drawn freely on the management and resources of the Association, and the various bureaus and councils have been most helpful.

Report of State Journal Advertising Bureau

The State Journal Advertising Bureau, operating under the auspices of the Board of Trustees, functions in behalf of 34 state medical journals, official publications of 39 state medical societies.

The purpose of the Bureau is to render assistance to its member journals by securing advertising space sales and servicing accounts. A monthly bulletin is issued which offers helpful suggestions on advertising make-up, comments on economic trends, and a listing of products currently accepted by the Councils on Pharmacy and Chemistry, Foods and Nutrition, and Physical Medicine and Rehabilitation, and the Committee on Cosmetics.

The Bureau is governed by the Advisory Committee, which is composed of Drs. Stanley B. Weld, Connecticut, Chairman; Douglas W. Macomber, Colorado; L. Fernald Foster, Michigan; Julian P. Price, South Carolina; and Walter E. Vest, West Virginia. Mr. Alfred J. Jackson, Director of the Bureau, serves as Secretary of the Advisory Committee. Ex officio members are Drs. George F. Lull, Secretary and General Manager, Austin Smith, Chairman of the Advertising Committee, and Robert T. Stormont, Secretary of the Council on Pharmacy and Chemistry, of the American Medical Association.

The following official 34 state publications are members of the State Journal Advertising Bureau at the present time:

Journal of the Medical Association of the State of Alabama
Arizona Medicine
Journal of the Arkansas Medical Society
Connecticut State Medical Journal
Delaware State Medical Journal
Medical Annals of the District of Columbia
Journal of the Florida Medical Association
Journal of the Medical Association of Georgia
Hawaii Medical Journal
Journal of the Indiana State Medical Association
Journal of the Iowa State Medical Society
Journal of the Kansas Medical Society
Journal of the Kentucky State Medical Association
Journal of the Louisiana State Medical Society
Journal of the Maine Medical Association
Maryland Medical Journal
Journal of the Michigan State Medical Society
Minnesota Medicine
Missouri Medicine
Nebraska State Medical Journal
New England Journal of Medicine (Massachusetts & New Hampshire)
Journal of the Medical Society of New Jersey
North Carolina Medical Journal
Ohio State Medical Journal
Journal of the Oklahoma State Medical Association
Pennsylvania Medical Journal
Rocky Mountain Medical Journal (Colorado, Montana, New Mexico, Utah and Wyoming)
Journal of the South Carolina Medical Association
South Dakota Journal of Medicine
Journal of the Tennessee State Medical Association
Texas State Journal of Medicine
Virginia Medical Monthly
West Virginia Medical Journal
Wisconsin Medical Journal

Council acceptance of new products opens up an avenue of further advertising prospects, since all of the member journals follow standards of advertising adopted for the publications of the American Medical Association. It is therefore hoped to maintain present sales in subsequent years and even to increase them. The Bureau is not only self-sustaining but also a revenue producer for the state journals. During the past eight years the net sales have exceeded $5,049,000. This amount, less the Bureau's operating costs of about 6%, has been transmitted to the journal members.

Today's Health

The period covered in this report is from Sept. 1, 1952, through Aug. 31, 1953. It has been a year of testing and challenge for *Today's Health.*

After many years of alternating between small profits and equally small deficits, the magazine began in 1947 to enter upon an era of unfavorable conditions. The end of World War II brought about the discontinuance of high wartime taxation on corporations. This in turn resulted in the loss of so-called institutional advertising, the cost of which was deductible from corporation taxes. *Today's Health* lost 21 large accounts of this character. Other unfavorable factors were steadily rising wage and material costs, which have practically doubled production cost of the magazine. Postage rates also were increased. The effects of inflation on families of moderate means, which constitute the bulk of the subscribers, caused the curtailment of magazine subscriptions. In such cutbacks, specialty magazines like *Today's Health* are among the first casualties. Families tend to keep a weekly fiction magazine, a weekly news magazine, a household magazine, and magazines of religious or organizational character in which they have a special interest.

In 1949 when the present editor took charge, the percentage of subscribers renewing on expiration was exceedingly low.

Of new subscribers procured in a given year, only 10% were left at the end of three years. The average renewal percentage at the expiration of an initial trial subscription was in the neighborhood of 33%. This percentage has risen to 47% at the end of the year covered by this report. Indications are that it will exceed 50% during the next year.

The change of name from *Hygeia* to *Today's Health* brought a small amount of adverse criticism, but most of this has now disappeared and the new name is firmly established, together with a new personality, format, and art work.

Financially the magazine had two years immediately preceding the one covered by this report in which the net cost to the Association was relatively large. Including approximately $59,000 of bookkeeping debits, which do not represent cash outlay, the net cost for the last preceding year was $210,000, representing a net cash outlay above receipts of roughly $150,000. This large amount has naturally raised the question as to whether the Association is getting its money's worth in health education and community relations out of the magazine.

The extensive use of *Today's Health* in schools and public libraries and in the offices of physicians and dentists multiplies its readership far beyond its circulation. A conservative estimate is that there are between two and three million readers per issue exclusive of the secondary audience reached through reprinting of articles in other magazines. The estimated cost per reader per month is a fraction of one cent. From another viewpoint the net cost of $150,000 is bringing the Association a gross operation worth approximately $700,000 or almost 5 to 1 on a dollar basis.

An index of the influence wielded by *Today's Health* is the demand for reprints. With *Reader's Digest* heading the list in point of circulation, 86 magazines have reprinted 162 articles from *Today's Health* in the year covered by this report. Their combined circulation is estimated to be in excess of 14 million readers.

Net paid circulation has remained at a high level by reason of previous momentum plus some significant factors reflecting on improved reader acceptance. Agency sales have risen sharply, which means that the magazine virtually sells itself from catalog listings and procurement costs nothing. State and local medical societies and the Woman's Auxiliary are taking a renewed interest in the magazine. Large industrial orders have increased. In summary, the magazine is at a point where there is every reason to believe that the corner has been turned and that it is on the upward path. Indications in September are that the net cost of *Today's Health* during the fiscal year 1953 will be under $150,000, including all bookkeeping charges.

The main editorial criterion of where *Today's Health* stands today is something that may seem intangible but is not actually so—personality. That was something the old *Hygeia* had, indelibly. It seemed, however, that the character of *Hygeia* was somewhat limited, perhaps behind the times. It seemed urgent that a personality in step with today and capable of appealing to wide groups of today's readers should be developed. It required the development of a sufficient backlog of good manuscripts to allow some choice and some flexibility. It involved endless, detailed changes and eternal vigilance and the development in the staff of a clear sense of direction. The result is that in the last year or so *Today's Health* actually has begun to shape up as a new personality, and one that seems to appeal to a wide range of readers.

Studying the magazine itself provides perhaps the best evidence, but aside from that a few concrete indications may be mentioned. Perhaps most impressive are the rising renewal rate and the slow, but apparently solid, increase in advertising. Ranking next was the final report on the study by the Eastman Research Organization, which states in the opening paragraph that *Today's Health* "again shows gratifying and quite undeniable evidence of healthy progress."

The art director was one of 16 distinguished artists chosen to plan the 1953 Magazine Show of the American Institute of Graphic Arts. In 1951 *Today's Health* was entered in this show, the most important of its kind, and took two awards.

An article on "How to Read Science Stories," by the assistant managing editor drew the attention of the Science Committee participating in a four-year project of the American Council of Education. Nineteen institutions are collaborating in this study, in which an objective of the Science Committee is to foster the development of courses for general students that provide not merely factual information "but rather an understanding of what science is and how it operates." One project of that committee is a Handbook for College Teachers, which will devote a chapter to the evaluation of popular articles. The committee requested permission to reproduce the article mentioned.

CIRCULATION

The average net paid circulation for the first six months of 1953 was 260,601, which was a slight gain over the net paid circulation for the last six months of 1952. The average net paid circulation for the last six months of 1953 is not expected to show a further increase because of a limitation on the expenditures for new orders to replace subscriptions expiring during the latter half of the year. A gradual increase in the renewal percentage reflects a more favorable acceptance of the magazine, better new subscriber selection, and a continued improvement of renewal solicitation material.

A survey of the mailing list for the May, 1953, issue indicated the following breakdown in types of subscribers:

Subscriber Classifications	Percentage of Total Subscriptions
Lay Subscribers	69.0
Nurses	2.0
Physicians	10.0
Dentists	3.0
Hospitals	0.5
Schools, Teachers	9.0
Public Libraries	1.5
Clergymen	0.5
Miscellaneous	4.5

All classifications showed a moderate gain during the past fiscal year, proportionate to the general increase in paid circulation. New and renewal orders from physicians were stimulated by the use of an attractive folder sent to each member of the American Medical Association with his 1953 membership card.

The use of the magazine in high schools and colleges was reflected by a gratifying increase in the number of copies purchased. An average of 4,556 copies per month were used during the past school year as a supplementary text book, as compared with 2,367 copies per month during the previous school year. These copies are supplied at a special bulk rate for quantity orders, and the teacher is furnished a list of questions and answers based on the articles in each issue. In the year ending June 30, 1953, 45,561 copies were ordered as compared with 23,669 copies in the previous period.

The Woman's Auxiliary to the American Medical Association again worked closely with the Circulation Division in promoting a wider distribution of *Today's Health.* A monthly bulletin called "Tips 'N Topics," plus promotional material, furnished the regional, state, and local officers with helpful aids in carrying on this work. In addition, the auxiliaries were instrumental in obtaining renewals of gift subscriptions from 21 constituent state medical associations for legislators, public officials, and schools in their respective communities. This public relations endeavor supplied copies of the magazine to United States senators and representatives, state legislators, judges, public health officials, school officials, labor and civic leaders, and public and school libraries. Under the capable direction of the national, regional, state, and county *Today's Health* chairmen, the auxiliaries accounted for 33,034 new and renewal subscriptions. This is an increase of 6,832 subscriptions over the previous year and is the highest net gain in any one year of the 17 years of the Auxiliary program.

Promotion efforts continue the increase in the use of *Today's Health* in industrial health programs. Group orders ranging from 10 to 1,300 copies were received from three pharmaceutical firms, the faculties of two large universities, several public utility companies, six area offices of Blue Cross and Blue Shield, seven large industrial firms, and several insurance companies. This use of the magazine as a health education medium in the industrial field is growing, and has led to a wider recognition of the health education value of the magazine by the general public.

ADVERTISING

From an advertising standpoint, *Today's Health* has enjoyed a very successful year. It is interesting to note that 1953 is the first year since 1947 that *Today's Health* has shown an increase in both advertising pages and dollar volume. The chief reasons for this "about-face" are greater acceptance of the magazine by both the reader and the advertiser, increased circulation, a coordinated advertising sales approach, and more adequate sales representation in the field. These factors have made it possible to establish 67 new advertising accounts in the first nine months of 1953. This compares to a total of only 52 new accounts established in 1952.

Advertising promotion activities, including direct mail and trade paper advertising, have paid off very well this year. Much of the work being done today is aimed at renewing contracts for next year, and prospects at the moment are excellent, anticipating at least a 15% increase in page and dollar volume in 1954. The newly established feature "Helpful Hints for Better Living" has taken hold and in the first 12 months of publication has accounted for nearly 60,000 inquiries. This feature not only gives *Today's Health* readers an opportunity to gain more information about advertised products, but it enhances the value of display advertising.

Report of Bureau of Health Education

The Bureau of Health Education has continued its work along previously established lines during the year ending Aug. 31, 1953. Correspondence from nonmedical inquirers asking health questions occupies the full time of the Associate Director, Dr. William W. Bolton, and of two stenographers, plus fractions of the time of the remainder of the Bureau staff. Consultants in the medical and allied sciences outside of the American Medical Association headquarters are called on frequently. Published questions selected from this correspondence continue to be among the most popular features of *Today's Health* as indicated by readership surveys.

The Bureau has been concerned with the relationship of radio to television. The phenomenal growth of the latter medium to an estimated 26 million or more receiving sets in operation as of August, 1953, together with the opening of numerous new television transmitters, has raised the question of whether too much attention is being paid to radio. There has been no question that too little attention has hitherto been paid to television.

At the beginning of the year the decision was made to continue with a radio broadcasting program consisting of four series of electrical transcriptions for local use plus one series of six nationwide network radiocasts in the spring. The television budget was applied to the production of six films of five minute length. In conjunction with the Department of Public Relations and the Committee on Medical Motion Pictures, a full length major television film was produced.

Dr. D. A. Dukelow continued his field study of preventive medicine and health teaching in medical schools through personal consultation with professors of preventive medicine; a preliminary report on this project will soon be forthcoming.

Preparations were begun for the Fourth Conference on Physicians and Schools, a biennial event initiated in 1947. This is scheduled for Sept. 30 to Oct. 2, 1953, which is just outside the scope of this report and will be incorporated in the report for 1954. Advance registrations point to an exceptionally successful conference.

The usual variety of committee and liaison work is carried on in cooperation with other agencies, often in conjunction with other bureaus and departments at American Medical Association headquarters. The Joint Committee with the National Education Association has completed its new book, "Health Service in Schools," a companion volume to "Health Education." The new book will be available for distribution before the end of September, 1953. The Bureau continues to work closely with the staff of *Today's Health*, each supplementing the other until the line of demarcation is indistinguishable.

The telecast, "Medicine and the Mighty Atom," made by the Bureau in conjunction with the National Broadcasting Company in the fall of 1952 was awarded "Special Mention" by the Institute for Education in Radio and Television held annually by Ohio State University. "Special Mention" is a citation awarded only occasionally for programs of special merit as distinguished from ordinary first awards and honorable mentions.

QUESTIONS AND ANSWERS

Communications received from lay correspondents desiring health education information totaled 13,978 for the period from Sept. 1, 1952, to Aug. 31, 1953, representing an appreciable increase. Certain special factors were responsible for the rise. A five-minute television program on weight reduction, presented early in 1953 over the NBC network, produced 882 requests for advice and literature, and several articles on plastic surgery that appeared in various weekly magazines were responsible for 657 inquiries.

As in previous years, correspondence was screened daily by a physician in order to expedite handling of the material. In most instances, literature prepared by the Bureau was sent with a personal reply. In addition to receiving Bureau material, many correspondents were assisted in their search for information by being referred to one or more of the 27 national organizations listed by the Bureau as having a special interest in various diseases and known to distribute literature. Despite the upswing of interest in obesity control and plastic surgery, the highest total of inquiries related to matters of sex education, the figure being 935.

Special free material was mailed to 1,710 persons, most of these being school teachers. In addition, requests for literature dealing with specific disorders were handled, plus 2,000 requests for Bureau catalogs. There was an increase in letters referred from various health museums.

From the replies prepared, topics suitable for publication in the "That's a Good Question" department of *Today's Health* were selected. For part of the year, a separate column containing inquiries and answers on care of children was published, and the same source was utilized in selection of material. This has been merged with the section containing general questions.

LOAN COLLECTIONS

During the year, 70 requests were received for Bureau of Health Education material that could be utilized by professional workers in the preparation of talks to be given before lay groups on medical subjects. This represented a slight decrease from the total for the previous year. Interest was rather widely diversified, 33 topics being included, with no marked preponderance in any area. The greatest number of requests were for material on the general subject of medical advances, sex education, and cancer. Although the year revealed extremely great general interest in the problem of obesity and its correction, only one loan collection for preparation of a talk on this subject was requested. Other topics for which more than single requests were received included child health, communicable disease, heart disease, infantile paralysis, mental hygiene, and narcotics.

NEW ELECTRICAL TRANSCRIPTIONS

The following new radio transcription series has been prepared: *(a)* "Chats with the Champs" features interviews with top flight sports figures, many of whom were on-the-spot interviews recorded in Helsinki, Finland, during the 1952 Olympic Games.

(*b*) "Heart of America" presents fascinating case reports from 13 outstanding cardiologists, dramatized by top radio and television actors. These programs are scientifically accurate portrayals of problems facing the patient with heart disease. The series was produced under the supervision of the American Heart Association and the Bureau of Health Education.

(*c*) "Help Yourself to Health" is a documentary series relating the problems facing rural communities and towns in establishing their own health facilities. The series consists largely of true stories about small American communities that have successfully solved their health problems through local initiative and effort. The verbatim comments used in the transcriptions were tape-recorded at the National Conference on Rural Health held in Denver.

(*d*) "June, July and August" is a dramatization with the Holloway family offering health hints and advice for summertime "nuisances," such as hay fever and summer insects, that take the fun out of outdoor activities. The dramatic presentations are followed by a discussion of summer health problems by the Director of the Bureau of Health Education.

(*e*) "Yours for Health" consists of dramatized stories of 13 major health problems and how the American Medical Association has helped to solve them. The series shows how the work of various Association councils and committees has contributed to better health for the American people.

The five series described above were prepared and released prior to Aug. 31, 1953. In addition, the following series has been prepared for release on Sept. 15, 1953: "Medicine Fights the Killer." The theme of this new series is concerned with what medicine is doing to overcome the principal causes of death in the world today. A second series, "Child Care and Guidance," is being prepared for release in December, 1953.

Network Radio

"Medicine USA" is a dramatized health education series of six half-hour programs concerning fields of medicine in which great strides have been made in recent years. Personalities such as Helen Hayes, Pat O'Brien, Claude Raines, and Kim Hunter starred in the series, which was presented by the American Medical Association in cooperation with the National Broadcasting Company.

Contrary to 1952 experience, when the network radiocast with Charles Laughton attracted widespread attention and much favorable publicity, this series appeared to make little impression. This was not a matter of quality nor of the theatrical stars employed. It now appears to be a reflection of diminished interest in radio network broadcasts. Local radio, on the contrary, continues to give satisfactory results.

Television

A 26 week series of five minute television programs called "MD," featuring helpful health advice, was produced by F. William Hart in cooperation with the American Medical Association to be presented as a portion of the Dave Garroway "Today" show over the NBC network. E. R. Squibb & Sons sponsored the series.

"What to Do" is a series of six five-minute films starring Nancy Craig, American Broadcasting Company woman commentator, who shows "what to do" in home emergencies.

"Operation Herbert" is a half-hour film dramatizing the cost of medical care in a comparison of cost in 1937 and 1953, based on the consumer's price index prepared by the United States Department of Labor.

The two films are available to the county medical societies without charge and may be obtained on a loan basis in the same way in which electrical transcriptions are obtained.

In addition to the above films for television, the Bureau of Health Education, in cooperation with the Smith, Kline and French Laboratories, telecast four live shows, two each from Denver and New York City, under the title "March of Medicine." The distribution of the Television Handbook and prepared television scripts is continuing and has rapidly expanded in recent months.

Radio and Television from Clinical and Annual Meetings

Radio and television service other than scientific telecasting in color in connection with the Denver Clinical Meeting and the New York Annual Meeting were handled, as usual, by the Bureau of Health Education. At both meetings, in many instances the materials were used by well-known broadcasters and telecasters on established programs with wide and regular listening audiences.

DENVER CLINICAL MEETING

Both the Denver broadcasters and the networks were most cooperative in offering their services to tell the public about the Clinical Meeting. Special interviews with various authorities were recorded during the course of the convention for broadcast on outstanding women's programs over the nation. The most-broadcast celebrity was Dr. John Maston Travis of Jacksonville, Texas, sixth "General Practitioner of the Year."

A special broadcast under the title "Today in Medicine" over station KOA outlined the scientific advances presented to physicians attending the Clinical Meeting. The NBC network broadcast a panel discussion on "Behavior Problems in Children."

NEW YORK ANNUAL MEETING

The listing of actual broadcasts scheduled during the course of the New York Meeting does not begin to cover the activities of that meeting, from which there was more broadcasting than at any other meeting in the recollection of the Bureau staff. A total of 93 news editors, program directors, and commentators were furnished with daily releases covering every aspect of the meeting and the papers presented. The releases were furnished by the Public Relations Department, and the Bureau staff saw to it that they were received by the radio broadcasters at the same time the same news would be available to the press correspondents. This was a service deeply appreciated and widely used.

This office also handled television press conferences on a special events basis. The first of these was a preview of exhibits late Sunday afternoon, when the news services were admitted with cameras to take film. Throughout the week the staff always was available to escort the various television men and news services. The Columbia Broadcasting System, Fox-Movietone, Metro-Goldwyn-Mayer, and Telenews took extensive advantage of this privilege.

Television coverage was also secured on the appearance of Mrs. Oveta Culp Hobby in the House of Delegates. Several of the radio and television news services carried the interview with her and greetings from Dr. Louis H. Bauer and Dr. Edward J. McCormick.

This year the Voice of America made particular request for interviews with representatives of foreign nations attending the convention. They furnished the interviewers, and the recordings were made from the headquarters suite for broadcasting back to individual countries. Several of these were 30 minutes in length. All were on the subject of the visiting doctor's impressions and experiences in attending the annual meeting and his observances of medical practices in this country.

Special Broadcasts

The Bureau was invited to handle radio coverage for the Annual Congress on Industrial Health, held at the Drake Hotel, Chicago, Jan. 20 to 22, 1953. Seven visiting medical leaders participated in a radio roundtable discussion, one radio interview, and three television shows.

The Bureau was invited to handle radio coverage for the Annual Congress on Medical Education and Licensure, held at the Palmer House, Chicago, Feb. 8 to 10, 1953. Six visiting medical leaders participated in three radio interviews and three television shows.

LOCAL BROADCASTS

Ten local radio programs, including two network programs and four television broadcasts including two network programs, were given by the staff of the Bureau and others in connection with meetings they were attending in other cities and in Chicago.

HEALTH AND FITNESS DIVISION

The Health and Fitness Consultants provide consultation on the public health and education aspects of school health to state and local medical societies and voluntary and governmental agencies in education and public health. The consultive team, consisting of a physician certified in preventive medicine and public health and an educator trained and experienced in health and physical education, has aided materially in making the Association's counsel on the administrative and interprofessional problems in school health acceptable to all of the professional interests involved.

The Fourth National Conference on Physicians and Schools to be held at the Hotel Moraine, Highland Park, Ill., Sept. 30 to Oct. 2, 1953, was organized and all but the final arrangements made during this year. Invitations to be represented were sent to all state and territorial medical associations, health departments, and education departments, and the principal national governmental and voluntary health and education agencies. In addition, invitations to send representatives to discuss big city school health problems have been extended to the medical societies, health departments, and education departments serving the two largest cities in each of the nine census regions. Eighty-six consultants drawn from the professions of medicine, education, and public health accepted invitations to serve as discussion leaders for the 12 discussion groups planned. The discussions will center on the relationship of physicians to school health services. The group subjects will be (1) school health service problems in large cities; (2) school health service problems in rural areas; (3) the physician as a consultant in school health education; (4) mental health in the classroom; (5) health aspects of school and community athletic programs; (6) advisory health councils and the school; (7) interchange of health appraisal data on children; (8) medical society school health committees; (9) coordinating health records and examinations; (10) organization and conduct of state and local conferences on physicians and schools; (11) health problems in school transportation; and (12) health of school personnel. The report of the conference will be edited from the notes and reports of the reporters of each discussion group and will be published as soon after the conference as possible. Many state and local conferences were held following the Third National Conference. The Fourth National Conference should give further encouragement to state and local groups to carry on the same thinking at home, and to increase state and local interest in solving school health problems by interprofessional and interagency cooperation.

The consultants have continued to provide assistance to the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, as technical assistants to the several subcommittees. The Educational Consultant, Dr. Hein, is a member of the Joint Committee and is now serving as its Secretary for the third year.

The Medical Consultant, Dr. Dukelow, has served in a consultive capacity to the Council on Medical Service's Committee on Maternal and Child Care. This arrangement has made possible close liaison between the child health activities of the Council and those of the Bureau of Health Education in relation to school health programs. He also has served as a Health Education Consultant to the Joint Committee on Medical Care for Industrial Workers of the Council on Medical Service and the Council on Industrial Health, which has been concerned with the health service for soft coal miners in the eastern bituminous coal area by the United Mine Workers of America.

Health education films, particularly those used for visual education in the schools, are an important educational medium. The consultants review all such films coming to the Committee on Medical Motion Pictures to determine their technical accuracy and applicability.

An informal study of medical school teaching in preventive medicine, public health, and the evolution of physician attitudes toward school health services is being continued from last year. It involves interviews with professors of preventive medicine or other appropriate faculty members of medical schools in cities visited by the medical consultant on other business. To date interviews have been completed at 23 medical schools. Because of the nature of this long-term project it will require a number of years to complete.

Considerable consultant time is given to the conferences and institutes conducted by universities, teachers' colleges, state departments of health and education, and other agencies to improve the understanding of school health services and school health education.

The educational consultant participated in seven national conferences, and the medical consultant has participated in eight. The consultants have also participated in the orientation of foreign visitors and graduate students to the Bureau, particularly in reference to school health policies. During the past year, individuals or groups from many countries and students from many universities have been welcomed to the Division offices.

As a means of promoting interprofessional and interagency relations between the American Medical Association and the educational and health agencies concerned with school health, community organization, and health promotion, both consultants are active in the work of many associations. Within these agencies and in other agencies in which the Consultants do not hold membership, they promote school and child health interests by accepting invitations to address or confer with those attending meetings called by such agencies. Service of this nature has been given to such groups as state and local medical associations and their auxiliaries, various councils, bureaus and committees of the American Medical Association, various national and state health agencies, public health and education departments, parent-teacher associations, professional education associations, and other similar groups. As a matter of policy the medical associations of the state and county in which a meeting is held are always given advance notice that a consultant from the Bureau of Health Education has been invited to and will attend the specified meeting.

The pamphlets that have been the basis of the school health consultation service continue in their usefulness and popularity. These are used extensively in teacher education, community planning, and planning health administration in the school. The two exhibits on school health prepared in previous years are still in demand and are available for showing at annual meetings and conferences of interested organizations.

BUREAU PUBLICATIONS

During the past year the Bureau received 399 communications from a variety of sources requesting information about literature, price quotations on reprints of *Today's Health* articles, sample copies of pamphlets, and materials suitable for display racks, exhibits, county fairs, etc. Orders for pamphlets in quantities, totaling 223,980, were filled. The Order Department sold 368,893 Bureau pamphlets out of stock, making a combined total of 592,873.

Approximately 1,000 copies of a specially prepared Bureau pamphlet, "First Aid Manual," were given away to as many people as a result of advertisements placed in two issues of *Nursing Outlook* and one of *Today's Health.* Exhibits of Bureau literature were prepared for the American Medical Association Public Relations Institute, the National Safety Congress, the Industrial Health Conference, and the New York Annual Meeting.

Fifty-three reprint permissions were sold to 12 publications in the past year, and 115 complimentary reprint permissions were granted.

MEETINGS AND CONFERENCES

The Bureau staff travelled 136,280 miles to attend meetings or address audiences in 29 states and the District of Columbia. They participated in 228 conferences and committee meetings. For various reasons it was necessary to decline 74 engagements.

COOPERATIVE RELATIONSHIPS

National Conference for Cooperation in Health Education.—Membership in this conference was withdrawn in March, 1953, on the grounds that in the past five years it has made no significant accomplishments and has failed in securing financial support from various foundations for a number of proposed projects; also, the American Medical Association support of $50 a year, though nominal, has been out of proportion to the support given the conference by other agencies presumably with equal or perhaps superior financial resources. Under these conditions it was felt that the energies of the Bureau could be expended more profitably in other directions. Member agencies in the conference have been assured that the Bureau is as ready as ever to cooperate with them in appropriate situations.

American Public Health Association, Public Health Education Section, Television Committee.—The Director of the Bureau was reappointed to serve as chairman of this committee for another year. A meeting was held on Oct. 16, 1952, in Cleveland, at which time there was a showing and discussion of selected kinescopes of televised health programs. The suggestions arising out of the discussion of the committee will form the basis for a final report.

Joint Committee on Health Problems in Education of the American Medical Association and National Education Association.—The committee, which was established in 1911 at the suggestion of the American Medical Association, this year completed its 42nd year of activity. Now composed of five representatives of each of the parent organizations appointed by their respective governing bodies, its chief function is to consider principles and policies and to make recommendations on problems affecting the health of children and youth of school age. Membership of the committee during the past year consisted of the following representatives of the American Medical Association: Ray O. Bjork, Helena, Mont.; Fred V. Hein, Chicago, Secretary; Herman M. Jahr, Omaha; Charles Outland, Richmond, Va.; and Carl N. Neupert, Madison, Wis., Chairman. Representatives of the National Education Association were Marjorie Eastabrooks, Olympia, Wash.; Ruth Grout, Minneapolis; John L. Miller, Great Neck, N. Y., Vice Chairman; James Ramsey, Fort Smith, Ark.; and Herbert Walker, New York.

Among the problems considered were methods of keeping current the more than 20 publications that the committee distributes. Two new pamphlets published last year, "Health Conditions Affecting the Personality of School Youth" and "The Physical Educator Asks About Health," have had an unusually wide first year distribution and seem to be filling a definite need. Continuing action toward publication of the Committee's new book, "School Health Services," has proceeded on schedule. It is to be a companion volume to the authoritative text "Health Education," first produced by the committee in 1924 and revised several times since.

During 1953 a number of subcommittees were active in a variety of projects having to do with school health problems. It is anticipated that the subcommittees on "The Nurse in the School" and "The Relation of the School Plant to Health" will complete materials this year that will be published in pamphlet form. Other problems among those listed were handled by statements urging the use of authoritative publications on the subject already available from reliable sources.

The joint committee recommends that (1) physicians, educators, and others concerned with school health be urged to submit pertinent problems to the committee for consideration and appropriate action; (2) extensive distribution and use of the recommendations and publications of the committee be made to guide the development of school health programs along sound lines; and (3) education and medical groups be encouraged to establish cooperative relationships at state and local levels to provide for joint action in improving school health programs.

National Committee for Traffic Safety, President's Highway Safety Conference.—A meeting of the President's Highway Safety Conference was held in Chicago on Oct. 17 and 18, 1952, and was attended by the Associate Director, as alternate for the Director who had previous commitments. Resolutions were presented urging that efforts be directed at stimulating more active development of traffic safety programs at local levels.

National Citizens Committee for Educational Television, Advisory Committee.—The American Medical Association was invited in July, 1953, to join with 28 other national groups as a member of this advisory committee and the Director was appointed to represent the Association and to work with the committee in urging Members to support their local educational stations. The National Citizens Committee for Educational Television Advisory Committee was formed in December, 1952, with help from the Ford Foundation's Fund for Adult Education and the American Council on Education to help local groups establish their own television stations and to protect their interests once they are on the air.

National Committee on Boys and Girls Club Work (4-H) Clubs.—The work of this committee proceeded as usual, with the annual meeting held in Chicago on Dec. 3, 1952, which was attended by Dr. F. V. Hein in place of the Director. This meeting was routine. It was reported that the membership in 4-H has increased since 1921 from 274,000 to 2,000,000 at the present time. During the same length of time, the number of agents to operate the program has increased from 5,300 to 12,600. Some states have fine records in holding youths within the organization for 5 to 10 years. Reenrolment from one year to the next ranges from 42% to 82% in the various states. The future of 4-H looks bright because of fine attitudes on the part of Extension Services toward the organization, greater interest among parents, and the possibility of federal legislation to further assist 4-H Club organization.

Other Assignments.—The Director continues to serve as the official representative of the American Medical Association on the following committees:

American National Red Cross, Advisory Board on Health Services
Cleveland Health Museum, National Advisory Council
AMA-NEA, Joint Committee on Health Problems in Education, Subcommittee on School Health Services Publication
A. M. A. Committee on Television
Safety Organization Subcommittee on Organized Public Suuport of the President's Highway Safety Conference
American Diabetes Association, Committee on Purposes & Policies
National Congress of Parents & Teachers, Advisory Committee on Health & Summer Round-Up.
National Society for Medical Research, Executive Committee and Board of Directors.

United States Government Agencies.—The Bureau continues to cooperate by correspondence or otherwise with many government agencies.

MISCELLANEOUS

The Bureau entertained and arranged observation schedules for 20 visitors, including one or more from each of the following countries: Brazil, Egypt, England, Finland, Germany, India, Iran, Japan, Nepal, Tunis, and Yugoslavia. In most instances arrangements were made for these visitors to tour the American Medical Association building, study the particular departments that interested them most, and become acquainted with the work of other Chicago agencies, such as the American Dental Association, the American College of Surgeons, the American Hospital Association, medical schools and universities, health departments, social agencies, public schools, and museums.

(To be continued)

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THE ST. LOUIS MEETING

In this and the succeeding issue of THE JOURNAL will appear reports of the officers of the American Medical Association, the scientific program, and descriptions of the technical exhibits for the St. Louis meeting of the Association. Several years ago a midyear meeting of the Association was held in St. Louis, and those in attendance will remember the virtues of this community as a convention city.

The Clinical Meeting (this is the seventh) features programs for the general practitioner. It also is the time when the yearly reports of the work of the various A. M. A. offices are presented to the House of Delegates. Unlike the annual meeting, the scientific program is not divided into sections, although it features topics in broad fields. Thus the registrant can hear papers, attend conferences, and see demonstrations on subjects ranging from opportunities for research in general practice to pain, cardiovascular diseases, virus infections, pulmonary diseases, cancer, neurological and psychiatric problems, surgery, arthritis, dermatitis, jaundice, cyanosis, toxemia of pregnancy, leukemia, and other topics too numerous to mention.

As at all meetings of the Association, scientific exhibits will play an important part in the proceedings. Also of interest will be the motion pictures and the color television program. The latter has become so popular and effective that it offers promise of opening a new door to postgraduate education. On Thursday evening, December 3, the NBC Television Network will carry a program of convention activities. Local newspapers across the nation will contain information on the time and channels.

Hotel reservations for the St. Louis meeting should be made by application to "Chairman, American Medical Association Subcommittee on Hotels, Hotel Reservation Bureau, Room 406, 911 Locust Street, St. Louis 1, Mo." Applications should not be sent to A. M. A. Headquarters in Chicago. Applicants should indicate preference of hotel (first, second, third, and fourth choices), type of room or suite desired (including price), and time of arrival and departure. This meeting offers appeal to specialists as well as to the general practitioner, and it is not too early now to make hotel reservations.

INFLUENZA

The World Health Organization has issued a symposium[1] on influenza that contains a vast amount of information. Much of this is highly technical and will be of interest chiefly to research workers, but much also will be of interest to physicians in practice. The erratic behavior of influenza, which has puzzled epidemiologists for many years, is attributed to the variability, unequaled by most disease agents, of the influenza virus. It has been shown that although the disease may be produced by either of the two commoner and antigenically separate viruses, A and B, and not uncommonly by both at once, major outbreaks can be ascribed chiefly to virus A. A wide variety of strains of this organism have been studied, and it is believed that a succession of antigenic changes is occurring, because over the years one prevalent strain will disappear to be replaced by another that is later supplanted by a third. Whether the capacity of virus A for variation is unlimited has not yet been determined.

In order to achieve worldwide coordination of all aspects of this disease WHO now sponsors the World Influenza Center, with headquarters in London and a network of associated laboratories in 42 countries. In recent years the identification of the virus by hemagglutination-inhibition tests has been used in preference to complement-fixation or cross-protection tests in mice because it is the cheapest and technically the simplest. It is difficult to find the influenza virus in any locality in the intervals between epidemics. It has been postulated that the reservoir of infection may be in chronic pulmonary lesions in man in a form unrecognizable by the usual tests. Belief in the hidden existence of the virus is based on the following factors: (1) inability to find active virus over long periods; (2) minor epidemics in early summer preceding widespread outbreaks in the fall; (3) outbreaks occurring almost simultaneously in widely separated centers; and (4) the appearance of influenza simultaneously over large areas, the spread being too rapid to be explained by case to case transmission. It is concluded in the WHO symposium that in the spread of epidemics two factors are involved: (1) the existence of a "basic virus" as yet undetectable until activated and responsible for multicentric outbreaks and (2) the element of spread, which under favorable conditions carries the infection to susceptible groups and results in extensive epidemics.

In a study of serum antibody levels in various age groups it was found that children's serums showed a high level for FM1 and FW-1-50 strains of influenza virus A and essentially no antibody for the WS or PR8 strains. Adult serums on the other hand revealed a high antibody content for PR8 and moderate titers for WS and A′ strains. The antibody levels against PR8 increased in 1944 after the epidemic and remained high for about eight years. Although the measurement of antibody levels may aid in estimating the susceptibility of a given population to a given virus, the relationship between antibody titer and immunity is unfortunately not always consistent, because the disease sometimes occurs in persons with high antibody levels and others with low levels may escape infection. Factors other than the amount of antibody circulating in the blood must, therefore, influence immunity to this disease.

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[1] Influenza, Bull. World Health Organ. (No. 5-6) 8:591-823, 1953.

Exact information on the morbidity and mortality from influenza is difficult to obtain. Although where the disease is reportable the reporting is both incomplete and irregular, especially from rural areas, there is evidence that deaths from influenza in a unit population have been decreasing in all countries for which data are available. The exact meaning of this is not clear. The elimination of false reporting by positive virus identification, the use of modern therapy, and changes in the rules governing the selection of the underlying cause of death when more than one cause is given may all be factors in this decrease.

Through the use of high speed centrifugation and the electron microscope knowledge of the morphology of the influenza virus has been greatly increased. The virus can be shown to consist of an elementary body and a soluble substance. The properties of these two components are very different. The soluble substance consists of small, noninfective, but highly antigenic particles that are not easily seen even with the electron microscope. It can be demonstrated only by complement-fixation tests. Antibodies to this substance develop after infection but not after vaccination. Virus infectivity is found in the larger elementary bodies. These bodies also cause hemagglutination and are capable of stimulating the production of complement-fixing antibodies that are different from those associated with the soluble substance. Studies of the enzymatic virus-host cell interactions give promise of a better understanding of the kinetics of intracellular growth and may eventually lead to a means of chemotherapeutic control of the disease.

Study of the influenza virus in the allantoic cavity of the chick embryo is initiated by adsorption of a virus particle to mucoprotein receptors on the cell surface. This is followed by a period of a few hours in which no viable virus can be extracted from the infected cells. At some stage before the virus is liberated into the allantoic fluid, soluble complement-fixing antigen, hemagglutinin, and viable virus in that order can be extracted from disintegrated infected cells. The average infected cell may liberate about 90 virus particles within two or three hours. Most infected cells show no sign of morphological damage when the first virus particles are liberated. The earliest sign of change is an increase in ribonucleic acid in the cytoplasm. This may or may not be followed by structural damage. Subsequent waves of infection are chiefly by way of the virus liberated into the allantoic fluid. The soluble complement-fixing antigen is a particulate agent much smaller than the virus and has a species-specific antigenic pattern. Its major component is nucleoprotein containing ribonucleic acid, and except for its specific antigen it cannot be distinguished from the microsomal fraction of normal cells.

Some of the early difficulties in preparing a potent A and B vaccine have been overcome by methods of concentration of the virus using the adsorption of the virus onto the erythrocytes of the chick embryo. The virus is inactivated by formaldehyde, and a mild bacteriostatic is added. Protection begins about seven days after vaccination and lasts several months. Although it is not effective for all strains of the virus, it has been demonstrated that some protection can be obtained by the use of vaccine strains that are not identical to those prevalent in an epidemic. There appears to be a more rapid decline in antibody titer after the initial postvaccination rise in young children than in older groups. Investigations have shown that the use of virus first emulsified in mannitol mono-oleate and then suspended in a light mineral oil gives a vaccine that is free from the side-reactions attending the use of other adjuvants and that will produce greatly increased and longer lasting antibody titers as compared with aqueous vaccines. The cost of production of the modified vaccine is also much less than that of aqueous vaccine. It would seem clear, then, that vaccination for influenza is effective when the vaccine used is properly prepared and has not lost its potency. Further improvement in the production of influenza vaccine will undoubtedly be made in the near future.

PERITONEOSCOPIC CHOLANGIOGRAPHY

The diagnosis of hepatic and biliary disorders is difficult despite various liver function tests, including needle biopsy of the liver and cholecystography.[1] Unfortunately, oral cholecystography is most reliable when the biliary system is normal and least reliable when disease is present.[2] Although cholangiography is almost routinely used during and after exploratory laparotomy when biliary tract disease is suspected, the technique of peritoneoscopic cholangiography described by Lee,[3] which has definite advantages, seems to have been neglected. Keil and Landis[4] found it to be a relatively harmless procedure and recommended its use when a differentiation between primary hepatocellular damage and damage due to common duct stone could not be made by other methods. Such diagnostic problems are relatively common, and differentiation is important because patients with far-advanced hepatic disease do not tolerate laparotomy well. Peritoneoscopic cholangiography permits visualization of the gallbladder, cystic duct, and common duct in their entirety and is an especially valuable procedure when oral and intravenous cholecystography fail. Mild reactions resulting from injecting the contrast medium into the peritoneal cavity or the wall of the gallbladder reported earlier can be prevented by the simple expedient of assuring a free flow of bile through the needle before iodopyracet is injected.[2] This diagnostic measure will spare many patients a needless operation, and those who have a stone in the common duct "may be spared the delay which leads to severe hepatic damage and suppurative cholangitis."[4] For this reason it should be used in peritoneoscopic examinations in which there is any question of intrahepatic or extrahepatic obstruction.

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1. Carter, R. F., and Saypol, G. M.: Transabdominal Cholangiography, J. A. M. A. 148:253 (Jan. 26) 1952.
2. Keil, P. G.; Hegstrom, G. J., and Zoeckler, S. J.: Cholangiography, Ann. Int. Med. 39:479 (Sept.) 1953.
3. Lee, W. Y.: Evaluation of Peritoneoscopy in Intra-Abdominal Diagnosis, Rev. Gastroenterol. 9:133 (March-April) 1942.
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THE PRESIDENT'S PAGE

A MONTHLY MESSAGE

There are homes in this country where the onset of chronic illness in any member of the family would create an economic burden. The development of an adequate program of medical care for those afflicted with long-term ailments is one of the major problems in the health field service. The American Medical Association has long recognized the importance of this problem and has actively supported various movements designed to find a solution.

In 1949, the A. M. A. helped to found the Commission on Chronic Illness, for the express purpose of making a detailed study of the whole problem. Since that date the Association has contributed financially and in many other ways to the support of the commission. The Association has also been active in support of the vast research programs of our national voluntary health organizations, such as the American Cancer Society, American Heart Association, and the National Tuberculosis Association. Aside from sponsoring research programs, their efforts are devoted largely to education in the prevention and treatment of chronic diseases. I know that the Board of Trustees has followed the developing program of the Commission on Chronic Illness with keen interest. The commission has provided a useful vehicle for study of this major problem and a medium through which we can readily combine our efforts with other national organizations that have a big stake in working out an adequate medical care program for the victims of prolonged illness.

Most physicians today are seriously concerned over the great financial strain that a long-term illness imposes on a family. Too often doctors see the skills of registered nurses used where a practical nurse or a housekeeper could serve the purpose as well. Those of us who serve on hospital planning or operating boards know that our general hospitals are not designed for the care of many patients with chronic illnesses, but where else can we put them? If we are to build other facilities, where are we to build? These are only a few of the problems that practicing physicians are facing every day. And statistics show that the problem is growing as our knowledge of averting and controlling the acute diseases increases.

To tackle the questions, the A. M. A. Board of Trustees voted to join with the American Hospital Association, the American Public Health Association, the American Public Welfare Association, and the U. S. Public Health Service in sponsoring a National Conference on Care of the Long-Term Patient. This conference will be held in Chicago March 18-20, 1954. Financing for preconference activities and the conference itself is in the form of grants totaling $35,000 by the Rockefeller Foundation, the Liberty Mutual Insurance Company, the New York Life Insurance Company, the Metropolitan Life Insurance Company, and the Equitable Life Assurance Society. This meeting is developing as a logical sequence to the previous National Conference on the Preventive Aspects of Chronic Illness, which was held in Chicago in March, 1951. The conference will be focused on the health services that are needed by the approximately 4 million Americans who have been substantially disabled as a result of long-term illness or other impairments. The problem now is not how to arouse interest in the action that must be taken but rather how best to provide the care that is needed.

There has been much experimentation in various parts of the country with different facets of the problem, and a number of organizations and individuals have been successful to a limited extent. The commission took advantage of this practical local experience in making preparations for the conference and assigned various segments of the subject to small study groups that dealt intensively with their respective assignments. The material produced by these study groups will provide the basis for discussion at the conference. The study groups started meeting in May of this year, and their reports are scheduled to be completed in November. The subject matter for the conference itself has been divided into five major categories concerning the chronically ill—the patient at home, the patient in an institution, integration of facilities, research needed, and methods of financing.

As President of the American Medical Association I wish to commend the work done so far by the Commission on Chronic Illness. I also feel that a vote of thanks is due the members of the various study groups who have worked so diligently at their assignments in the past few months. Their combined effort toward solving this urgent problem is certainly worthy of strongest support by the physicians of the United States.

Edward J. McCormick, M.D.,
Toledo, Ohio

ORGANIZATION SECTION

CANCER RESEARCH THEME OF SECOND TELECAST

Tremendous efforts and studies being undertaken in the fight against cancer will be highlighted during the second of the fall television series of "The March of Medicine" at 10 p. m. (E.S.T.), Nov. 5. Television audiences will find local time and channels in newspaper advertisements in cities carrying the program. The telecasts, to be carried over 69 National Broadcasting Company stations in the United States and three Canadian stations, are produced by Smith, Kline and French Laboratories in cooperation with the American Medical Association.

Presented as a public service to create a greater awareness of the extensive research being carried out by the medical profession, the telecasts are live presentations from some of the nation's leading medical centers. The third in the series, to be presented Dec. 3, will point up medical progress as reported at the seventh annual A. M. A. Clinical Meeting at St. Louis.

Among the physicians appearing on the Nov. 5 program will be James W. J. Carpender, M.D., associate professor of radiology and director of radiation therapy at the University of Chicago Clinics and Argonne Cancer Research Hospital; Charles B. Huggins, M.D., director of the Ben May Laboratory for Cancer Research, University of Chicago; David A. Karnofsky, M.D., associate attending physician, chemotherapy service, Memorial Hospital, New York; Alton Ochsner, M.D., William Henderson Professor of Surgery at Tulane University of Louisiana School of Medicine; Wendall M. Stanley, Ph.D., Nobel laureate, director of the virus laboratory at the University of California, Berkeley; Harold C. Urey, Ph.D., atomic scientist and Nobel laureate, Ryerson Professor of Chemistry at the Institute for Nuclear Studies at the University of Chicago, and Edward L. Tatum, M.D., professor of biology, Stanford University.

ARTICLE IN COLLIER'S MAGAZINE

In the Oct. 30 issue of *Collier's* magazine appeared an article titled "Why Some Doctors Should Be in Jail" by Howard Whitman. Included in the article was a statement by Dr. George F. Lull, Secretary and General Manager, of official A. M. A. policy with respect to fee splitting, and comments by other medical leaders. After the publication of this article many physicians complained about the title and much of the content. In preparing the article the author requested a statement from the A. M. A. regarding its policy with respect to fee splitting, and the statement that appears in the article by Dr. Lull was provided in response to that request. The contents of the article and the title were prepared by the author and the magazine respectively and were at no time subject to review or revision by the Association, which was regrettable.

PUBLIC RELATIONS CONFERENCE IN ST. LOUIS

Medicine's principal PR problems for 1954 will be outlined by the keynote speaker, Dr. Walter B. Martin, A. M. A. President-Elect, at the American Medical Association's sixth annual Medical Public Relations Conference. Geared primarily for physicians, this year's conference is built around the theme "Facing up to PR Facts." The one day meeting will be held Monday, Nov. 30, in the Gold Room of the Jefferson Hotel in St. Louis, just before the A. M. A.'s Clinical Meeting. The morning program will feature a modified symposium on "Making a PR Program Work" to consider both state and county society PR programs. The luncheon speaker, Dr. John P. Spiegel, a psychiatrist from Chicago, will discuss "What Motivates the Public's Attitude Toward Medicine?" Two topics will be discussed during the afternoon program. One will be devoted to ways of selling our economic system and the other will be on mending our PR fences by policing causes of unfavorable publicity. Especially invited are medical society public relations chairmen, society officers, A. M. A. delegates, and staff employees of state and county societies. Registration opens at 9 a. m., and the conference will start at 10 a. m.

DISBURSEMENT BY NATIONAL FUND TO MEDICAL SCHOOLS

Now is the time for maximum effort on the part of every state and county society committee to insure a record income for 1953 for the American Medical Education Foundation. If every effort is exerted in this direction, the last day of December will see the foundation's income standing in excess of one million dollars for the first time since its inception. During the second and third week of November, more than 150,000 subscribers to The Journal in the United States will receive literature and a letter explaining the value of reviewing their probable income tax to see if a contribution to the foundation might serve the dual purpose of lessening their income tax and at the same time helping the nation's medical schools. By their personal efforts, added to this mail campaign, physicians can increase the amount of money raised in their state or county and elevate the relative position of their state in the record.

The number of contributors has increased more than 100% during the current year, and, on Oct. 1, the income was in excess of $907,000 or slightly more than was raised during all of 1952. Every dollar that the state and local committees turn in from now until Dec. 31 will expand the total funds raised and push the total ever closer toward the million dollar mark. The foundation has received $924,741.63 from 14,366 contributors at this writing. Let's all go to work at once and watch this total grow. Hiram W. Jones, executive secretary of the foundation, has just released a list of disbursements made by the National Fund for Medical Education last July to our medical schools.

RURAL HEALTH CONFERENCE TO BE HELD IN DALLAS

"Let's Put More 'U' in Comm*Unity* will be the theme of the ninth National Conference on Rural Health, sponsored by the A. M. A. Council on Rural Health, to be held at the Baker Hotel in Dallas, March 4-6, 1954. Leaders in the fields of medicine, agriculture, education, and public health will attend the formal sessions, which begin at 2 p. m. on Thursday, March 4, and continue through Saturday, March 6, ending with a luncheon meeting at 1 p. m. Problems of nutrition and costs of medical care and methods of prepayment will be the principal subjects to be discussed.

Following the practice of the last few years, an informal, preconference session for doctors only will be held at 10 a. m. on Thursday, March 4. Council Chairman F. S. Crockett, Lafayette, Ind., said this session would be devoted to problems confronting physicians who are members of state rural health committees or committees handling rural health problems. Physician participation at the grass roots and problems pertaining to health insurance matters are among the major subjects to be considered.

PHYSICIANS AND SCHOOLS CONFERENCE

More than 200 persons—physicians, public health officials, and educators—attended the recent fourth National Conference on Physicians and Schools, sponsored by the A. M. A. Bureau of Health Education. Thirty-eight states and the District of Columbia were represented. Every group discussion centered around the problems of attaining better health of children of elementary and high school ages. A. M. A. President E. J. McCormick, who was one of the dinner speakers, touched on what he termed a major point in the mortality rate among children, namely, accidents. He said accidents take the heaviest toll—14,000 deaths a year. That, he stated, is where health educators must put the stress because the figure represents more than the next six causes of death combined.

CIVIL DEFENSE

Plans for Special Weapons Defense. Part I: Defense Against Biological Warfare Agents

Following is the first of three articles on medical civil defense plans that have been prepared for the state of Maine. These plans are being published as samples for those states that have not as yet completed this phase of medical civil defense planning.—Ed.

The Committee on Civil Defense of the Maine Medical Association and the civil defense authorities for the state of Maine have completed, after three years of extensive work, State, County and City Organization and Operation Plans for Special Weapons Defense.

These plans, which are divided into three sections (see charts 1 and 2) as follows, Biological Defense, Chemical Defense and Radiological Defense, are designed to:

1. Provide adequate protection at the lowest possible cost and with the least inconvenience to all concerned.

2. Utilize equipment and supplies already available in the State, and conserve the State's manpower to the fullest extent.

The judicious use and the conservation of manpower and of equipment at hand were both considered to be items of such paramount importance in Civil Defense planning that it was deemed advisable to recommend that:

1. Multi-purpose types of Decontamination Units be organized at the county and at the city levels and that they be provided with the basic equipment and necessary supplies, be staffed with a minimum of qualified personnel and that the units be instructed and properly trained in the special techniques to be used when decontaminating for bacteriological, chemical or radiological warfare agents.

2. Dual purpose types of Bacteriological and Chemical Reconnaissance and Detection Units be organized at the county and city levels, that they be provided with the basic equipment and necessary supplies, be staffed with a minimum of qualified personnel and be instructed and properly trained in the special techniques to be used when either bacteriological or chemical warfare agents are suspected.

3. Single-purpose types of Radiological Detection Units be organized only at the state level, be provided with the necessary detection instruments by the State Civil Defense Agency, be sponsored and trained by the Department of Physics at the University of Maine and at each of the four colleges in the state.

A PLAN FOR DEFENSE AGAINST BIOLOGICAL WARFARE AGENTS

The indiscriminate use of biological warfare agents might accompany any enemy attack with either conventional high explosive bombs or with the newer missiles with chemical or atomic warheads; but their most logical use would seem to be by saboteurs at local levels to interfere with mobilization, to attack key personnel in military or civilian positions, to incapacitate large military or industrial establishments or to curtail production through destruction of crops or domestic animals used for food. Bacterial agents of various types or the toxic products of certain pathogens that make people or their live stock ill or destroy their lives; and synthetic hormones that control growth and fruit bearing functions of most plants have been developed which can kill crops and vegetables.

Hence, the Federal and State Civil Defense Authorities are faced with the necessity of preparing defenses capable of coping with all such eventualities. An attack must be recognized promptly, the biological agent identified, the disease diagnosed, and the potential epidemics controlled or neutralized by aggressive public health measures strongly supported and implemented by physicians and health agencies within the area or by rigid plant or animal quarantine in contaminated areas by the Department of Agriculture.

It is implicit, therefore, that the State plan of organization include all scientific agencies dealing with human communicable diseases such as the state and local Departments of Health, physicians, dentists and nurses; and all state and local government agencies having to do with the protection of man's food supply, such as the State Department of Agriculture, the Agriculture Extension Service, the State University School of Agriculture and the experimental stations, the State Fish and Game Commission, the State Forestry Service, etc. There must be the utmost cooperation between hospitals, State Department of Health, State Department of Agriculture and University and College laboratories throughout the State. Finally, the State Biological Defense Section should, at all times, cooperate and coordinate its activities with the Federal and Regional Special Weapons Defense sections.

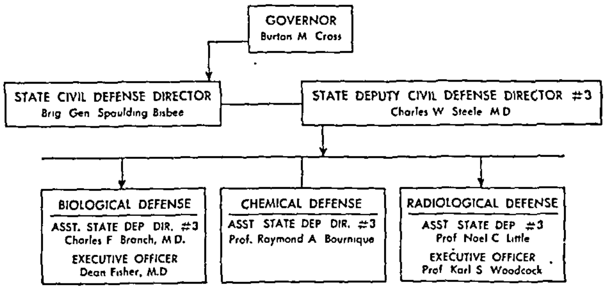


Chart 1.—Special weapons defense organization plan.

Duties and Responsibilities.—The duties and responsibilities assigned by the State Civil Defense Agency to the Assistant State Deputy Director #3 in charge of Biological Defense are as follows:

1. To outline, establish and control the organization, activities and methodology of the Biological Defense Division at all levels within this State.

2. To recruit and train personnel to handle the minute details of the technical aspects of detection, identification and decontamination.

3. Through the State Civil Defense Headquarters Office, to provide means and materials to those laboratories designed as regional diagnostic centers, and to implement their personnel assignments when required, for training or under conditions of attack or of major disaster.

4. To have at all times full knowledge of Biological Warfare offensive possibilities of or by potential enemy powers, or their saboteur agents.

5. To strive for early recognition of any such biological warfare attack by an enemy power or by subversive agents.

6. To conduct the necessary laboratory examinations of water, food, air, plants, animals and other vectors required to detect and identify any specific biological agents used in an attack.

7. To provide the necessary bacteriological data which will be required to assist the State and local Departments of Health, the State Department of Agriculture and other such responsible health agencies to localize and properly isolate all

contaminated areas within the State and to effectively quarantine infected persons, other infected animals and diseased plants as the case may be.

8. To provide the specific laboratory data which will permit practicing physicians, veterinarians and county extension agents to confirm clinical diagnosis, prescribe specific remedies when such are available and to instigate suitable isolation or quarantine measures designed to prevent the further spread of the disease-producing agent.

9. To outline suitable decontamination procedures for personnel, vital buildings and essential terrain in areas involved.

10. On request, to provide for proper Civil Defense authority, such factual and scientific information concerning Biological Warfare Defense as may be required to allay fear of the unknown that might give rise to mass hysteria.

Organization.—The Civil Defense Organizational Plan for Special Weapons follows:

1. Assistant State Deputy (Biological) Director #3. (Responsible to the Health Services and Special Weapons Defense Deputy Director.)

2. State Biological Defense Executive Officer. (The Director of the State Bureau of Health. Responsible to the Assistant State Deputy [Biological] Director #3.)

3. Biological Defense Advisory Committee. This committee will provide the Assistant State Deputy (Biological) Director #3 with the specific information needed in all the above mentioned fields of endeavor here in Maine. This group will operate at the state level and will consist of:

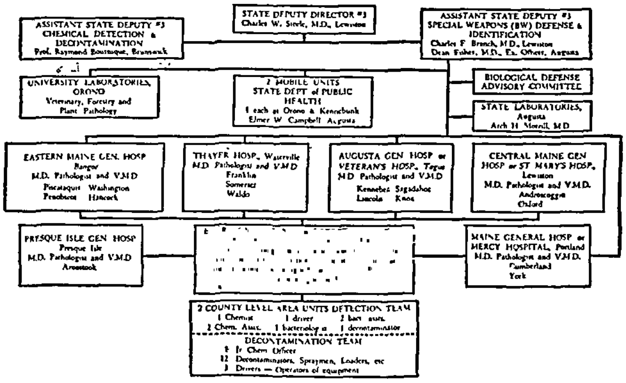

STATE DEPUTY DIRECTOR #3
Charles W. Steele, M.D., Lewiston
ASSISTANT STATE DEPUTY #3
CHEMICAL DETECTION & DECONTAMINATION
Prof. Raymond Bousquet, Brunswick
ASSISTANT STATE DEPUTY #3
SPECIAL WEAPONS (BW) DEFENSE & IDENTIFICATION
Charles F. Branch, M.D., Lewiston
Dean Fisher, M.D., Ex. Officer, Augusta
UNIVERSITY LABORATORIES, ORONO
Veterinary, Forestry and Plant Pathology
2 MOBILE UNITS
STATE DEPT of PUBLIC HEALTH
1 each at Orono & Kennebunk
Elmer W. Campbell Augusta
BIOLOGICAL DEFENSE ADVISORY COMMITTEE
STATE LABORATORIES, Augusta
Arch H. Morrell, M.D
EASTERN MAINE GEN. HOSP
Bangor
M.D. Pathologist and V.M.D
Piscataquis Washington
Penobscot Hancock
THAYER HOSP., Waterville
M.D. Pathologist and V.M.D
Franklin
Somerset
Waldo
AUGUSTA GEN HOSP or
VETERAN'S HOSP., Togus
M.D. Pathologist and V.M.D
Kennebec Sagadahoc
Lincoln Knox
CENTRAL MAINE GEN HOSP or ST MARY'S HOSP., Lewiston
M.D. Pathologist and V.M.D.
Androscoggin
Oxford
PRESQUE ISLE GEN HOSP
Presque Isle
M.D. Pathologist and V.M.D
Aroostook
MAINE GENERAL HOSP or
MERCY HOSPITAL, Portland
M.D. Pathologist and V.M.D.
Cumberland
York
2 COUNTY LEVEL AREA UNITS DETECTION TEAM
1 Chemist 1 driver 2 bact. assts.
2 Chem. Asst. 1 bacteriologist 1 decontaminator
DECONTAMINATION TEAM
1 Jr Chem Officer
12 Decontaminators, Spraymen, Loaders, etc
3 Drivers — Operators of equipment

Chart 2.—Civil defense plan for bacteriological defense.

a. Three physicians especially qualified in the various fields of human microbiology and parasitology, one of whom is a representative of the State Bureau of Health.

b. Three representatives from the State Department of Agriculture to include a plant pathologist, a veterinarian and a tree pathologist or entomologist.

c. A representative from the Department of Inland Fisheries.

d. A representative from the Department of Sea and Shore Fisheries.

This advisory group or technical panel will assist the Assistant State Deputy Director #3 (Biological) in the development of a program of laboratory techniques for the detection and identification of biological warfare agents and will assist in working out the most effective methods for combating such agents and decontaminating infected areas. They will assist in arranging for and implementing the organization and training of regional microbiological detection teams to operate under the direction of the chiefs of the Divisional Laboratories in various sections of the State.

4. State Bureau of Health Pathologist. To direct the State Bureau of Health's central diagnostic pathological and bacteriological laboratory at Augusta.

5. Senior Biological Defense Officer, Regional. (To be a physician or University or College Bacteriologist or Pathologist, especially trained in microbiology and parasitology, who now is or who may act as the Chief of the "District Diagnostic Laboratory," as prescribed in the next paragraph.)

6. District Diagnostic Laboratories will be established in six localities throughout the State.

a. These District Laboratories will provide biological defense service for the counties enumerated as follows:

	City	Name of Institution	Counties to be Served
1.	Presque Isle	Presque Isle Gen. Hosp.	Aroostook
2.	Bangor	Eastern Maine Gen. Hosp.	Hancock, Penobscot, Washington, Piscataquis
3.	Waterville	Thayer Hospital	Franklin, Somerset, Waldo
4.	Togus	Veterans Administration	Kennebec, Lincoln, Sagadahoc, Knox
5.	Lewiston	Central Maine Gen. Hosp.	Androscoggin, Oxford
6.	Portland	Maine General Hospital	Cumberland, York
7.	Orono	State University-Forestry Plant and Veterinary Laboratories	All counties in State

b. Two Biological Identification Units will be organized at each District Diagnostic Laboratory and will be directed and trained under the Regional Senior Special Weapons Officer. These teams shall be essentially mobile in type so that they can function alone under what conceivably may be the most primitive laboratory conditions or they may be attached to any of the State Mobile Reserve Battalions. Each "Biological Identification Unit" will be composed of: 1. One Chief Bacteriologist, 2. Three Trained Technicians (especially trained volunteers who may or may not be regular medical technologists).

7. Senior Chemical and Bacteriological Officer, State Department of Health Mobile Laboratory Units

The senior employee in each of the State's Department of Health Mobile Laboratories will function as the Senior Chemical and Bacteriological Officer for his mobile unit in time of an emergency certified by the Governor; and he will be responsible to the "State Biological Defense Executive Officer" who is the Director of the State Bureau of Health.

8. Two State Department of Health Mobile Laboratory Units

It is planned to set up within the existing State Department of Public Health Mobile Laboratory Units, supplementary detection and diagnostic equipment that may be used in case of bacteriological or chemical attacks. These two units would then serve as mobile laboratories for detection and identification of chemical and bacteriological warfare agents. The State Advisory Panel will have the assignment, planning and implementing of these existing units and in the organization, equipping and training of any additional mobile units that may be required in the future.

9. Senior Biological Officer, County

This officer, on the staff of the #3 Deputy County Civil Defense Director, will be responsible for developing and promoting within a county, the State Biological Defense program or any other such program as may be approved by the State Deputy Civil Defense Director #3 and his Special Weapons Assistants.

This Civil Defense Plan for Bacteriological Defense is shown in outline form in chart 2.

Methods.—A. Decontamination Procedures for:

1. Buildings, Floors, Walks, Roads, Streets, Equipment, etc.

a. Liberal sprinkling of lime or chloride of lime may be used to decontaminate grounds, walks, concrete floors, and to make protective small work areas where needed.

b. Large impervious surfaces such as stone or brick walls of buildings, hard surface drives, walks, limited street areas, tile or concrete floors, etc., may be decontaminated by application of detergents followed by water streams.

c. Steam generators equipped with steam hoses may be used to decontaminate large impervious surfaces of the type enumerated under "b" above.

d. Portable flame or acetylene burners when available might be used to decontaminate certain types of metal equipment or other types of non-inflammable structures.

e. Exposure to sunshine or to ultra-violet light will satisfactorily sterilize all but the spore-bearing bacteria and certain stable toxins such as those produced by the Botulism organisms.

f. Exposure to drying and heat will kill certain bacteria and virus agents.

g. Exposure to moisture and cold will destroy other virus infections and certain toxins.

2. Personnel Assigned to Detection and to Decontamination Units

a. Non-pervious clothing, rubber gloves, rubber boots, should be worn by the personnel of detection and of decontamination units while on duty in areas contaminated or suspected of being contaminated by BW agents. Impregnated clothing of the type used by chemical warfare personnel is said to afford protection against most BW agents.

b. The non-pervious clothing, rubber gloves and rubber boots should be removed and placed in suitable containers for sterilization or for destruction when the workers leave the contaminated area.

c. All personnel should then pass under a series of showers where suitable detergents are used along with vigorous scrubbing of skin.

d. A complete change of clean clothing must be provided for workers after they leave the showers.

e. The canister mask should be worn and should protect detection and decontamination personnel against inhalation of BW agents suspended in aerosol mixtures both during and immediately after an enemy BW raid.

f. The number of personnel assigned to decontamination work should obviously be kept as limited as possible.

3. Disaster Victims Caught in the Open and Contaminated by Enemy BW Agents Dispersed in Aerosol Form:

a. Self-Help Procedures

1. Don individual non-canister type gas mask if one is carried by the victim at time of raid.

2. Cover nose and mouth with double thickness cloth made from handkerchief, scarf or other article of clothing if mask is not available in an effort to prevent inhaling the BW agents suspended in the aerosol.

3. Seek cover inside a building or in protection of a doorway or other shielding object whenever feasible.

4. Keep doors and windows to buildings tightly closed during and for some time immediately following a known BW raid.

5. Do not eat food or drink water or other liquids that might have been exposed to BW agents during the enemy attack.

b. First Aid Procedures

1. Remove all clothing from disaster victims who are suspected of having been exposed to BW agents before they are admitted to any collecting station or to any hospital installation and place contaminated clothing in containers provided for that purpose.

2. All such ambulatory personnel should then pass under a series of showers where suitable detergents are available for use along with vigorous scrubbing of the entire outer surface of the body. See Charts III and IV.

3. All such non-ambulatory disaster victims will have to have clothing removed and placed in suitable containers and will require bathing by Medical and Hospital personnel before they can be admitted to the main wards and rooms in the hospital proper.

4. Clean hospital clothing must be provided for the disaster victims as they leave the showers in the decontamination truck.

B. Equipment for use by Veterinarian Decontamination Crew

6 manure forks (five-tine)
3 scrapers (long-handled)
3 ship scrapers
3 flat shovels (long-handled)
2 scoop shovels
3 hoes
3 garden rakes
3 heavy brooms
1 fiber push broom
1 ax
1 crowbar
1 pick
1 hatchet
1 pair pliers
2 milk cans (10 gallon)
1 pail (galvanized, 12-quart)
1 force pump
100 feet ¾-inch pressure hose
1 spray gun
4 rubber coats
6 pair rubber gloves
24 suits (overalls and jumpers)

C. Specific Identification Tests for BW Agents to Be Performed by the State Department of Health Laboratory and by the Specified General Hospitals that are to Provide Personnel and Equipment for Regional BW Laboratories.

1. The orthodox standard bacteriological culture and identification methods will by necessity be used for the present by the laboratory personnel when testing for suspected BW agents.

2. Rapid and specific identification tests for all major BW agents are being developed by the U. S. Public Health Services and by the Biological Warfare Section of the Armed Forces and these methods and procedures will be made available to the Maine State and Regional BW laboratories just as soon as this information is released by FCDA.

D. Collection of Specimens and Materials to Be Sent to Biological Warfare Diagnostic Laboratories.

1. General Information and Directions:

The following brief outline for collecting and processing materials suspected of being contaminated with Biological Warfare Agents is included for the benefit and guidance of those volunteers who are not regular medical technologists. Those procedures common to the collection and processing of all types of materials and specimens to be forwarded to designated Biological Diagnostic Laboratories are as follows:

a. Information Card—must be filled out and accompany every specimen and should include:

1′ Nature of BW specimen collected.

2′ Type of Biological Warfare agent suspected.

3′ Where and when specimen collected.

4′ Name of diagnostic team or person collecting specimen.

5′ Name of person to whom report is to be sent.

6′ Address of laboratory to which specimen is to go.

b. Biological Warfare Specimens and Materials for Study—should always be dispatched to the nearest Regional or State Diagnostic Laboratory by the quickest available means of transportation.

c. Standard Type Containers—should be used for the collection of certain materials such as water, air, food, human excreta, etc., and should be used whenever available by detection units.

d. Clean Half-Pint, Pint, Quart or Half-Gallon Canning Jars—of suitable size can be substituted when standard shipping containers for water, milk, food, insect or animal specimens are not readily available.

1′ *A jar rubber must be used under the cover on every canning jar* when it is closed to prevent leaking of fluid contents while in transit.

2′ All bottles and corks or caps must be clean and if facilities are available, these items are preferably boiled prior to use.

3′ The inside of the cover and the inside of the jar should not be touched while the bottle is being filled and recapped.

4′ Great care must be exercised when filling the jar to make sure that none of the material suspected of being contaminated with a BW agent gets on the outside of the container where it could infect or harm persons transporting the specimen to the laboratory.

5′ An Identification Card must be completed and attached to the outside of every jar used for a specimen container.

e. A small wide-mouth jar or bottle may be substituted when a standard specimen bottle is not available for human excreta, or small insect or animal specimens.

1′ Cork stoppered bottles with wide mouths are preferable.

2′ Screw cap wide-mouth bottles must have a suitable liner in the cap to prevent leaking of liquid specimens and the cap should be secured with adhesive tape.

3′ All bottles and corks or caps must be clean and, if facilities are available, these items are preferably boiled prior to use.

4′ The same precautions apply here in regard to the prevention of contamination to the inside and outside of the bottles when filling as was outlined under d-3′ and 4′ above.

5′ An identification tag must be completed and attached to each specimen bottle prior to its dispatch to the laboratory.

2. Specific Instructions for the Collection of Various Types of Materials Contaminated by Biological Warfare Agents.

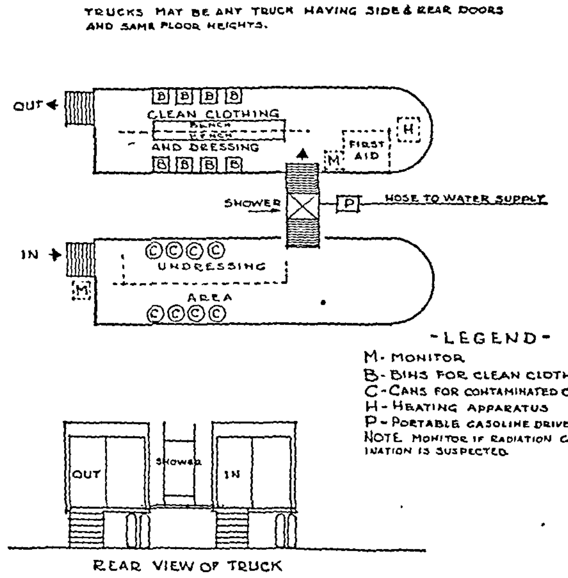

TRUCKS MAY BE ANY TRUCK HAVING SIDE & REAR DOORS AND SAME FLOOR HEIGHTS.
OUT
B B B B
CLEAN CLOTHING
BENCH
AND DRESSING
B B B B
H
FIRST AID
M
SHOWER
P
HOSE TO WATER SUPPLY
IN
C C C C
UNDRESSING
M
AREA
C C C C
-LEGEND-
M- MONITOR
B- BINS FOR CLEAN CLOTHING
C- CANS FOR CONTAMINATED CLOTHING
H- HEATING APPARATUS
P- PORTABLE GASOLINE DRIVEN PUMP
NOTE MONITOR IF RADIATION CONTAMINATION IS SUSPECTED.
OUT
SHOWER
IN
REAR VIEW OF TRUCK

Chart 3.—Method for adapting vehicles for use as decontaminators for personnel.

a. Collection of Water Specimens (Raw and Treated)

1′ Water Specimens to be collected from intact municipal system faucets:

a′ Allow water to run freely from tap for a few minutes.

b′ Remove stopper from standard container or cover from one-half gallon jar, place container under the faucet without touching mouth of bottle, fill container almost to top with water, replace stopper and secure it by replacing cloth cover on standard container or by securing the jar cover over a jar rubber in the usual manner.

2′ Water Specimen to be collected from streams, ponds or reservoirs.

a′ Wash the hands thoroughly with soap and water to free them from bacteria before taking the water sample.

b′ Remove cloth and stopper from shipping container or cover from clean glass jar.

c′ Reach out as far as possible against the current, submerge the bottle about one foot beneath the surface with the mouth of the bottle or jar upstream and allow to fill.

d′ Replace and secure stopper or jar cover as described above.

3′ Water Specimen to be collected from well or spring.

a′ Pump out enough water to empty pipe of water that may have been in pipe for some time.

b′ Uncap, fill bottle from spout of pump and recap or close container using the same technique and precautions outlined above when collecting specimens from a municipal faucet.

c′ Fill bottle or jar directly from the overflow pipe from a spring in the same way as from a municipal faucet.

d′ Use a bucket to dip water from well when a pump is not used, or from a spring when an overflow pipe is not used and fill specimen bottle using a clean funnel when available.

b. Air Sampling for the Detection of BW Agents Dispersed as Aerosols or Mists.

1′ Simple technique of exposure of Agar plates.

a′ Agar plates containing suitable media for culture of BW agents will be supplied to detection teams by the nearest regional laboratory.

b′ Agar plates would be exposed for specified intervals and at designated periods of time on the top of tall buildings or out in open spaces.

c′ Exposed Agar plates should be covered and returned promptly to designated laboratories for incubation and processing.

2′ Technique for Metal Funnel apparatus fitted with special BW filters attached to a Conical Side Arm Flask.

a′ The Hollaender and Della Valle apparatus permits a measured amount of air to be drawn through a funnel to play on Agar plates or on the new waferlike filters described by the U. S. Public Health Service on July 27, 1951. A partial vacuum is created by making suction on the side arm of the flask.

b′ The Agar plate on the special filter is removed with sterile forceps after a suitable interval of time and the latter is placed on a special pad saturated with special nutrient broth.

c′ The filter and the nutrient media pad are both wrapped up in pliofilm and placed in an inside pocket where the body heat starts the bacteria to growing while the packet is en route to the nearest BW laboratory.

3. Technique for U. S. Public Health experimental sampler equipped with 12 broth flasks.

a′ Place apparatus on a flat roof above street level. Electrical current is required to operate the vacuum apparatus required to pull atmospheric air through the apparatus.

b′ Atmospheric air is bubbled through the nutrient broth flasks one at a time for 20 minutes each. An unexplained rise in the total number of bacteria trapped in the broth from the atmospheric air would suggest possible danger of BW agents before the specific organism could be identified or an actual BW epidemic had time to develop.

c′ The new membrane filters described above may be incorporated into this type of air sampler. Such filters should permit the identification of disease producing bacteria in 15 hours instead of the four days previously required.

d′ The nutrient broth flasks and the samplers would be provided by the State Department of Health.

C. Exposed Clothing Suspected of BW Contamination

1′ Place clothing in clean tub or basin without handling with bare hands.

2′ Add enough water to cover clothing and agitate them for a few minutes with a clean stirring rod.

3′ Remove the clothing and fill a special shipping container or clean jar with the rinse water and forward to the nearest BW laboratory.

D. Clear Water Rinses from Structural Surfaces such as Buildings, Vehicles and Special Equipment.

1′ The outside of the building or exposed surfaces of vehicles or equipment should be scrubbed or swabbed down or washed by streams of clear water from buckets or hoses.

2′ Collect the clear water rinsings in suitable clean containers and forward to the BW laboratory.

E. Foods Exposed to Possible BW Contamination

1′ Milk and similar fluids with high protein and carbohydrate content.

a′ Collect specimens in either clean milk bottles and cap with clean milk bottle caps or in clean canning jars.

b′ The specimen should be refrigerated and rushed to the nearest BW laboratory.

2′ Exposed Solid Foods

a′ Collect representative surface samples of exposed food.

b′ Place specimens in clean canning jars, and if the food is perishable such as meat, fowl, fish or fresh vegetables, refrigerate if possible and forward to the BW laboratory.

F. Soil Samples

1′ Soil samples in general are not likely to be satisfactory because of the high number and variety of organisms normally present.

2′ Samples of soil suspected of being contaminated with spores of tetanus or anthrax are obtained by taking the topmost layer.

3′ These soil specimens should be placed in clean canning jars and be forwarded to the State BW Laboratory at the University of Maine.

G. Insect Specimens

1′ Collection may be made by special traps or by individual collection with gloved hands; or when the insects are on small animals, the latter can be anesthetized in a closed container and the anesthetized insects then combed from the animals' hair.

2′ Insects should not be crushed during collection and the collector should protect himself from infection, bites and contact with or ingestion of the insect excreta.

3′ Insect specimens should be placed in a dry tightly stoppered glass container for transport to a specially designated State BW Laboratory. It is usually not essential that the insect specimen be living on arrival at the laboratory.

H. Plant Specimens

1′ Plant specimens may be collected in any suitable closed glass, metal, wood or cardboard container for transportation to the plant laboratory at the University of Maine.

2′ Insect parasites on the leaves, stems or roots of the plant specimens collected should be shaken or brushed off into suitable glass containers, tightly stoppered and sent along with the plant specimen to the BW Laboratory at the University of Maine.

I. Human Excreta (Feces, urine and sputum)

1′ Collection of Feces Specimens

a′ Collect each specimen of feces in a bottle containing special fluid and provided by the State Bureau of Health.

b′ Place a small pea-sized portion of feces in the solution in the bottle using the small swab to transfer the specimen.

c′ Replace the cork stopper in the bottle and burn the swab.

d′ Mail or send the specimen to the State Bureau of Health Laboratory in Augusta or to the nearest regional BW laboratory.

2′ Collection of Urine Specimens.

a′ Collect each urine specimen in the same type of bottle as used for feces.

b′ Nearly fill the bottle with urine and replace the cork stopper—(The fluid already in the bottle should not be emptied out.)

c′ Do not mix urine and feces but use a separate bottle for each.

d′ Send specimen to the State Department of Health Laboratory or to the nearest regional BW laboratory.

3′ Collection of Sputum Specimens

a′ Early morning specimens are preferable.

b′ The special sputum container provided by the State Bureau of Health should be half filled with sputum and the cork secured.

c′ Forward specimen to the State Department of Health Laboratory or to the nearest regional BW laboratory.

J. Human and Animal Blood Specimens

1′ Human Blood for special agglutination or serological studies.

a′ Take 5 to 10 cc. of venous blood and place specimen in sterile glass blood tube to clot.

b′ Insert stopper, place in mailing container and send to the nearest BW laboratory.

2′ Animal Blood for special agglutination studies.

a′ Take specified amount of venous blood required to do tests in question and place in sterile glass blood container provided for this purpose.

b′ Insert stopper, place in mailing container and send to the Department of Agriculture Laboratories, University of Maine.

3′ Human Blood for Culture

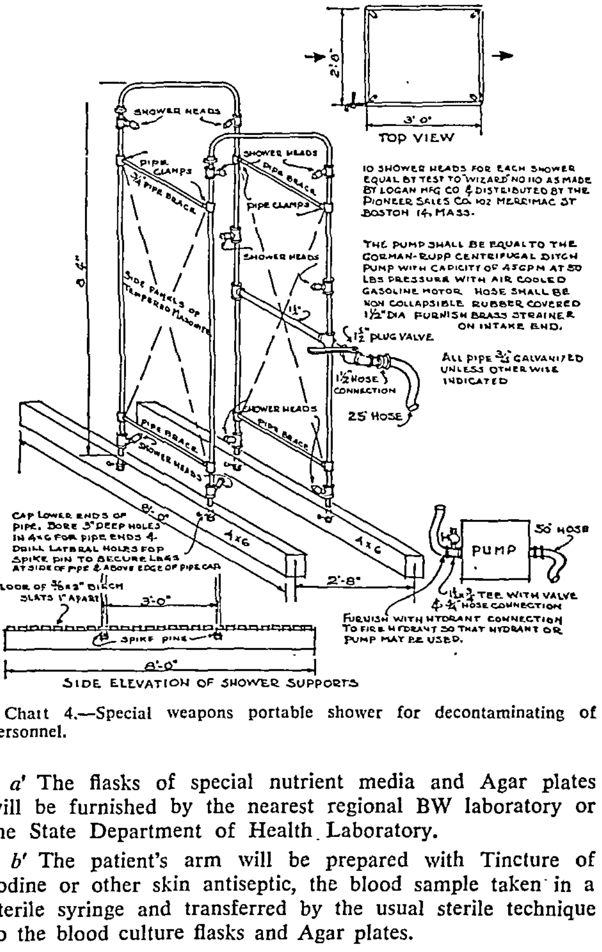

2'-0"
3'-0"
TOP VIEW
10 SHOWER HEADS FOR EACH SHOWER EQUAL BY TEST TO "WIZARD" NO 110 AS MADE BY LOGAN MFG CO & DISTRIBUTED BY THE PIONEER SALES CO. 102 MERRIMAC ST BOSTON 14, MASS.
THE PUMP SHALL BE EQUAL TO THE GORMAN-RUPP CENTRIFUGAL DITCH PUMP WITH CAPICITY OF 45GPM AT 50 LBS PRESSURE WITH AIR COOLED GASOLINE MOTOR. HOSE SHALL BE NON COLLAPSIBLE RUBBER COVERED 1½" DIA FURNISH BRASS STRAINER ON INTAKE END.
ALL PIPE ¾" GALVANIZED UNLESS OTHERWISE INDICATED
SHOWER HEADS
PIPE CLAMPS
¾" PIPE BRACE
SHOWER HEADS
PIPE BRACE
PIPE CLAMPS
SHOWER HEADS
SIDE PANELS OF TEMPERED MASONITE
1½"
1½" PLUG VALVE
1½" HOSE CONNECTION
25' HOSE
SHOWER HEADS
PIPE BRACE
PIPE BRACE
SHOWER HEADS
8'-0"
4x6
4x6
2'-8"
CAP LOWER ENDS OF PIPE. BORE 3" DEEP HOLES IN 4x6 FOR PIPE ENDS & DRILL LATERAL HOLES FOR SPIKE PIN TO SECURE LEGS AT SIDE OF PIPE & ABOVE EDGE OF PIPE CAP
FLOOR OF ⅝x2" BIRCH SLATS 1" APART
3'-0"
SPIKE PINS
8'-0"
SIDE ELEVATION OF SHOWER SUPPORTS
PUMP
50' HOSE
1½x¾ TEE WITH VALVE & ¾" HOSE CONNECTION
FURNISH WITH HYDRANT CONNECTION TO FIRE HYDRANT SO THAT HYDRANT OR PUMP MAY BE USED.

Chart 4.—Special weapons portable shower for decontaminating of personnel.

a′ The flasks of special nutrient media and Agar plates will be furnished by the nearest regional BW laboratory or the State Department of Health Laboratory.

b′ The patient's arm will be prepared with Tincture of Iodine or other skin antiseptic, the blood sample taken in a sterile syringe and transferred by the usual sterile technique to the blood culture flasks and Agar plates.

c′ Blood culture specimens and Agar plates will be sent to the nearest BW or hospital bacteriological laboratory.

4′ Animal Blood for Culture

a′ The flasks of special nutrient media will be provided by the Department of Agriculture BW Laboratory at the University of Maine.

b′ The suspected animal is prepared in the usual fashion and the skin over the vein will be sterilized with Tincture of Iodine or other suitable skin antiseptic.

c′ The necessary blood samples will be drawn in a sterile syringe and a specified quantity of blood transferred to the culture flasks or Agar plates provided.

d′ Blood culture flasks and Agar plates will be sent to the Department of Agriculture Laboratories at the University of Maine.

MEDICAL NEWS

CALIFORNIA

Eye Foundation Lecture.—Dr. Frederick C. Cordes, clinical professor of ophthalmology, University of California Medical School, San Francisco, will deliver the fourth Estelle Doheny Eye Foundation lecture at 8 p. m., Nov. 5, in the Los Angeles County Medical Association building. His subject will be "Endocrine Exophthalmos—An Evaluation."

CONNECTICUT

Hospital Lectures.—The Hartford Hospital announces the following presentations in its Saturday morning 11 o'clock series:

Nov. 7, Perrin H. Long, Brooklyn, Abuses and Uses of Antibiotics.
Nov. 14, C. Lee Buxton, New York, Sterility.
Nov. 21, Samuel Proger, Boston, Cardiovascular Disease.
Nov 28, Renato A. Ricca, Glastonbury, Problems in RBC Permeability.

ILLINOIS

Psychiatric Lectures.—In its series on treatment in psychiatry, the North Shore Health Resort (225 Sheridan Road, Winnetka) offers a lecture, "What Is Psychoanalysis?" by Dr. Marc H. Hollender, assistant professor of psychiatry, University of Illinois College of Medicine, Chicago, on Nov. 4, 8 p. m., at the health resort.

Typhoid Problem.—According to a report by Dr. Roland R. Cross, Springfield, director of the state department of public health, up to Sept. 26 a total of 44 cases of typhoid had been reported in the state, compared with 30 cases in the corresponding period of 1952. Of those 44 cases, 13 were from Chicago and 31 from downstate. Most cases of typhoid occurring in Illinois were said to be traceable to personal contact or to the handling of food by apparently healthy carriers.

Chicago

Jaffe Lecture.—Dr. Paul E. Steiner, Chicago, will present the fifth Richard F. Jaffe memorial lecture before the Institute of Medicine of Chicago at the Palmer House on Nov. 2. His subject will be "Ideological Factors in Cancers as Revealed by Ethnic and Geographical Studies."

Lectures on Medical History.—The Chicago Medical School, 710 S. Wolcott Ave., announces that the following lectures in its series, "Introduction to the History of Medicine," will be given in Amphitheater A at 12:30 p. m.:

Nov. 3, Oriental Medicine, Ilza Veith, Ph.D.
Nov. 10, Medieval Medicine, Abraham Levinson.
Nov. 17, Medicine of the Sixteenth Century, Barry J. Anson, Ph.D.
Nov. 24, American Medicine, David J. Davis.

Society News.—The following program will be presented at the meeting of the North Side branch of the Chicago Medical Society in the Drake Hotel, 8 p. m. Nov. 3:

Telangiectasis of the Gastrointestinal Tract with Massive Hemorrhage, Leo L. Hardt and Samuel A. Levinson.
Treatment of Rheumatoid Arthritis, Max M. Montgomery.
Lower Back Pain in Older People, Fremont A. Chandler.
Benign Pancreatic Disease, Charles B. Puestow.
Electrolyte Metabolism in the Pre- and Postoperative Periods, Walter G. Maddock.
Anesthesia in the Elderly Patient, Lloyd A. Gittelson.
Diagnosis of True Posterior Infarction by Scapular Leads, Jack Williams.

A fellowship gathering at 5:30 p. m. will precede dinner. For reservations, call CEntral 6-7764.

MARYLAND

Lecture on Carcinoma of Colon.—The Dr. Julius Friedenwald memorial lecture will be given by Dr. Richard K. Gilchrist, professor of surgery, University of Illinois College of Medicine, Chicago, Nov. 5, 8:30 p. m., at the University of Maryland School of Medicine and College of Physicians and Surgeons (Chemical Hall—Main Building, N. E. corner of Lombard and Greene streets, Baltimore). Dr. Gilchrist will discuss "The Principles in Surgical Treatment of Carcinoma of the Colon."

Closed Circuit TV Program.—A closed TV demonstration sponsored jointly by the University of Maryland School of Medicine, the Baltimore City Medical Society, and the Maryland Academy of General Practice, will be held Nov. 5. Patterned after a previous telecast held in 1952, the clinical demonstrations will originate in the operating rooms and clinics of the University Hospital and will be carried through the facilities of WBAL-TV by closed circuit to an audience of physicians in both the Gordon Wilson Hall of the University Hospital, Baltimore, and the Osler Hall of the Medical and Chirurgical Faculty, 1211 Cathedral St. (meeting place of the Baltimore City Medical Society). A double circuit return wire will offer the audience an opportunity to ask direct questions of the clinical demonstrator. The program will start at 1 p. m., after a preliminary luncheon at 12 noon that will be served at the University Hospital and at Osler Hall, and will include clinicopathological conferences, pediatric clinics, an operative clinic, and a gynecologic clinic. Presentations will be made by members of the staffs of the University of Maryland and the Johns Hopkins University schools of medicine. Financial sponsorship has been given by the Read Drug and Chemical Company. All members of the Medical and Chirurgical Faculty of Maryland are cordially invited to attend the full meeting, luncheon included.

MASSACHUSETTS

Lecture on Congestive Failure.—The Boston University chapter of Alpha Omega Alpha will sponsor a lecture at 5 p. m. Nov. 5 in the main lecture room, Building A, Boston University School of Medicine, 80 East Concord St. Dr. Harry Gold, professor of clinical pharmacology, Cornell University Medical College, New York, will discuss "The Management of Congestive Failure."

MICHIGAN

Television Course for Parents.—The University of Michigan Medical School, Ann Arbor, announces the following television programs for November:

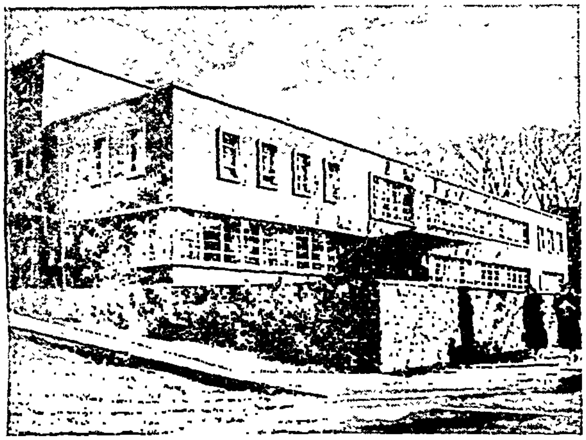
Nov. 1, Prevention of Disease, Ernest H. Watson, associate professor of pediatrics and communicable diseases.
Nov. 8, Prevention of Childhood Injuries, Harry A. Towsley, associate professor of pediatrics and communicable diseases.
Nov. 15, Your Child's Stature, Sylvester J. O'Connor, assistant professor of surgery.
Nov. 22, Your Child's Sight, F. Bruce Fralick, professor of ophthalmology.
Nov. 29, Your Child's Hearing, Albert C. Furstenberg, dean of medical school.

Personal.—Dr. William H. Beierwaltes, associate professor of internal medicine, University of Michigan Medical School, Ann Arbor, has been named the Saginaw High School distinguished alumnus of the year. At the age of 36, he is the youngest Saginaw alumnus to be so honored.——Dr. J. Marion Bryant, recently affiliated with the University of Michigan Hospital at Ann Arbor, has been appointed assistant professor of medicine, New York University Post Graduate Medical School, and has been placed in charge of inpatient cardiology, 4th medical division, Bellevue Hospital.

Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education and public health. Programs should be received at least three weeks before the date of meeting.

NEW YORK

New Special Education Building.—The $400,000, two story special education building shown in the figure was recently dedicated at Syracuse University. It was built as a research and service center. Among the many rooms are two soundproofed "floating" rooms, which, completely isolated from the remainder of the building, rest on springs. From adjacent control rooms operators can create in the rooms practically any sound that the ear can experience. One room is used to evaluate the hearing of infants and for electroencephalographic research; the other is for hearing aid evaluation and fitting. One-way glass is employed on the second floor to divide an observation room from a laboratory in which therapists can work with preschool children, mongoloid children, or deaf children. A room in which emotionally disturbed children can receive therapy is so constructed that the child can be as aggressive as he wishes in expressing his problems—even to spattering paint or pouring gallons of water on the floor—without harming the room or the building. Other rooms of special interest are the 13 individual speech therapy rooms, a speech and phonetics laboratory, and a three room medical diagnostic suite. Among the research projects in progress are a comparative study of the speech and breathing coordination of cerebral palsied and normal children, studies on perception of epileptic and of cerebral palsied children, attitudes of cardiac children, the relative efficiency of hearing aids under different situations, skin galvanometry with children under the age of 2, a comparison of various lipreading tests, and a study to determine whether better diagnostic characteristics can be obtained for differentiation of deafness, mental retardation, and aphasia. In the building is the hearing and speech center, recently renamed in honor of Dr. Gordon D. Hoople, its medical director. Dr. Hoople, who is now professor emeritus of otolaryngology at the university, is chairman of the Advisory Committee on Audiometers and Hearing Aids, A. M. A. Council on Physical Medicine and Rehabilitation.


Special Education Building, Syracuse University.

New York City

Williams Memorial Lecture.—The New York Academy of Medicine announces that the Linsley R. Williams memorial lecture, "The Application of Physics to Medicine," will be delivered at 8:30 p. m., Nov. 4, by Norbert Wiener, Ph.D., professor of mathematics, Massachusetts Institute of Technology, Cambridge.

Lecture on Poliomyelitis.—The Mount Sinai Hospital of New York announces the 11th Bela Schick lecture, which will be held in the Blumenthal Auditorium (entrances: through the hospital gardens, Fifth Ave. at 99th St.), Nov. 6, 8:30 p. m. Dr. Gregory Shwartzman, director, department of microbiology, the Mount Sinai Hospital, and professor of microbiology, Columbia University College of Physicians and Surgeons, will discuss "New Aspects of Pathogenesis of Experimental Poliomyelitis."

Lectures on Mental Health.—The New York Academy of Medicine (2 E. 103rd St.) will present two lectures on mental health under the A. Walter Suiter lectureship, Nov. 5 at 8:30 p. m. Dr. John C. Whitehorn, Henry Phipps Professor of Psychiatry, Johns Hopkins University School of Medicine, Baltimore, will discuss "The Acquiring and Imparting of Mental Health," and Dr. Frederick C. Redlich, professor of psychiatry, Yale University School of Medicine, New Haven, Conn., will have as his subject, "The Influence of Environment on Mental Health."

Lectures for Laymen.—The New York Academy of Medicine announces the 19th series of free lectures to the laity. Presentations will be made at the academy (2 E. 103rd St.); no admission tickets are required. The theme, "The Reciprocal Relations Between Medicine and the Other Disciplines," will be developed as follows:

Nov. 4, Application of Physics to Medicine, Norbert Wiener, Ph.D., professor of mathematics, Massachusetts Institute of Technology, Cambridge; presiding chairman, Dr. Frank J. McGowan.

Nov. 18, Relation of Electrochemistry to Medicine, Theodore Shedlovsky, Ph.D., associate member of the Rockefeller Institute; presiding chairman, Dr. Thomas M. Rivers.

Dec. 2, Practice of Psychiatry-Past and Present, Dr. Clarence P. Oberndorf, clinical professor of psychiatry, Columbia University College of Physicians and Surgeons; presiding chairman, Dr. M. Ralph Kaufman.

Jan. 6, 1954, Bearing of Anthropology Upon Medicine, Benjamin D. Paul, Ph.D., Harvard School of Public Health, Boston; presiding chairman, Dr. Paul Fejos.

Jan. 27, Where Law and Medicine Meet, David W. Peck, LL.D., presiding justice, Appellate Division, N. Y. Supreme Court; presiding chairman, Dr. Howard R. Craig.

Feb. 3, Medicine and Art, Mr. A. Hyatt Mayor, curator of prints, Metropolitan Museum of Art; presiding chairman, Dr. Jerome P. Webster.

Meeting on Tuberculosis.—"The Citizen's Part in Tuberculosis and Health Activities" will be the theme of the annual conference of the New York Tuberculosis and Health Association, Nov. 5 at the Hotel Statler, 7th Ave. at 32nd St. Dr. Wilson G. Smillie will preside over the general session, which will open at 9:45 a. m. in the Georgian Room with a presentation by Dr. Herbert R. Edwards, entitled "Next Steps to Be Taken." This will be followed by "The City Takes a Step," in which Dr. Arthur B. Robins will discuss the new interdepartmental coordinated treatment program. At 12:45 p. m. "Personnel—the Key to Improving Health Conditions" will be presented by Dr. Willard C. Rappleye and "The Citizen's Part" by Henry T. Heald, LL.D., Chicago. Dr. Leona Baumgartner will serve as chairman for the panel and audience discussion at 3 p. m. in the Georgian Room when the available health resources at home, at work, and in neighborhoods will be examined. The panel includes Drs. John A. P. Millet and Leo Price.

OHIO

Symposium on Surgery of the Hand.—This postgraduate symposium will be presented by St. Luke's Hospital, Cleveland, Nov. 5-7 at Prentiss Auditorium. Subjects to be considered include form and function, injury, general techniques, and special interests. Dr. Don L. Eyler, Nashville, Tenn., will present two films: Functional Anatomy Film, Thursday, 9:15-9:45 a. m., and Markee Film, Functional Anatomy, Friday, 9:45-10 a. m. Dr. Harvey S. Allen, Chicago, will speak on farm hand injuries, Thursday, 2:30-3 p. m. and will deliver the Rollett A. Cardon memorial lecture at the dinner Thursday, 6-8 p. m. On Friday, 11:10-11:40 a. m., Dr. Francis E. Nulsen, Philadelphia, will discuss "Injury to the Nerves." Friday, 4-5 p. m., there will be a plastic reconstruction round robin. The Friday evening session, 8-10:30 p. m., will include a round robin on dystrophy.

OREGON

Academy Meeting.—Dr. Carl V. Moore, professor of medicine, Washington University School of Medicine, St. Louis, will be guest speaker of the Portland Academy of Medicine at its meeting in the University of Oregon Medical School auditorium, Nov. 5-6, 8-9:30 p. m. His subjects will be "Iron Metabolism and the Pathogenesis of Iron Deficiency Anemias" and "Platelets, Platelet Antibodies, Platelet Types and Thrombocytopenic Purpura."

PENNSYLVANIA

Mobile Physiotherapy Unit.—The Beneficial Saving Fund of Philadelphia has presented to the Eastern Pennsylvania chapter of the Arthritis and Rheumatism Foundation a fully equipped mobile physiotherapy unit for the home treatment of arthritic patients. A trained physiotherapist will supervise the treatments rendered from the mobile unit.

Philadelphia

Alvarenga Prize Lecture.—At the joint meeting of the College of Physicians of Philadelphia and the Philadelphia County Medical Society at the hall of the College of Physicians, 19 S. 22nd St., Nov. 4, 8:30 p. m., Dr. Francis D. Moore, Mosely Professor of Surgery, Harvard Medical School, Boston, will deliver the Alvarenga prize lecture, "Recovery from Injury: An Endocrine Sequence."

WASHINGTON

Symposium on Heart Disease.—The Washington State Heart Association and the Washington State Department of Health will present the fifth annual symposium on heart disease at the University of Washington Medical School, Seattle, Nov. 6-7. Guest speakers will be Drs. Herrman L. Blumgart and David D. Rutstein, Boston, Howard B. Burchell, Rochester, Minn., and Paul Wood, London, England. Subjects scheduled for discussion include: congenital and acquired valvular heart lesions amenable to surgery, pulmonary hypertension in congenital heart disease, treatment of intractable congestive failure, and rheumatic fever. There will be no registration fee. The symposium is the equivalent of nine hours of formal postgraduate training for members of the Academy of General Practice.

WEST VIRGINIA

Meeting of Heart Association.—The annual meeting of the West Virginia Heart Association will be held at the Daniel Boone Hotel, Charleston, Nov. 6, under the presidency of Dr. W. Frederick Richmond, Beckley. The meeting will open with a subscription luncheon at 12:30 p. m. Drs. Paul D. White, Boston, and T. Duckett Jones, New York, will be guest speakers at the afternoon session, which will have as its theme, "Rheumatic Fever and Rheumatic Heart Disease, Medical and Surgical." A social hour at 5:30 p. m. will precede the annual banquet for which Dr. Jones will be guest speaker. Dr. White will present "The Changing Scene—New Hope for Hearts" at the open meeting, 8:30 p. m.

WISCONSIN

Society News.—The Milwaukee Oto-Ophthalmic Society has elected Dr. Gerhard D. Straus, president, Dr. Erwin E. Grossman, vice-president, and Dr. Donald T. Hughson, secretary-treasurer.

Dearholt Days.—The Wisconsin Anti-Tuberculosis Association, in cooperation with the Marquette University School of Medicine, Milwaukee, University of Wisconsin Medical School, Dane County Medical Society, Wisconsin Trudeau Society, and the VA Hospital, Madison, will sponsor the annual Dearholt Days, Nov. 9-10, in Milwaukee and Madison. William H. Feldman, D.V.M., professor of comparative pathology, University of Minnesota Graduate School, Minneapolis, will present "Anti-Tuberculosis Properties of Substances Considered for Therapeusis: Their Detection and Experimental Evaluation," and Dr. William B. Tucker, clinical associate professor of medicine, University of Minnesota, will discuss "The Accurate Evaluation of Therapeutic Procedures in Clinical Medicine: Cooperative Studies in the Chemotherapy of Tuberculosis." Dr. John S. Hirschboeck, dean, Marquette University School of Medicine, will preside at the Monday afternoon session, 3 p. m. Nov. 9, in the auditorium at 561 N. 15th St. The Tuesday session will be held in the auditorium, Service Memorial Institute, University of Wisconsin, Madison, at 3 p. m., Dr. William S. Middleton, dean of the medical school, presiding. Tuesday, 8 p. m., Dr. Samuel L. Chase, Madison, president, Dane County Medical Society, will preside at a session in the Veterans Administration Hospital auditorium, 2500 Overlook Terrace, Madison. Dr. Feldman will have as his subject, "Chemotherapy of Infectious Disease—A Two-Edged Sword," and Dr. Tucker will speak on the subject, "Modern Drug Treatment of Pulmonary Tuberculosis."

GENERAL

New England Postgraduate Assembly.—The New England Postgraduate Assembly, which will meet at the Hotel Statler, Boston, Nov. 2-4, will offer numerous clinics and panels and, as a new feature, clinical pathological conferences.

Meeting on Arteriosclerosis.—The American Society for the Study of Arteriosclerosis will hold its annual meeting at the Knickerbocker Hotel, Chicago, Nov. 1-2. Dr. Nelson W. Barker, Rochester, Minn., will deliver the presidential address Sunday at 2:20 p. m. The principal address by invitation will be given Sunday, 10 a. m., by Dr. James Watt, Director, National Heart Institute, National Institutes of Health, U. S. Public Health Service, Bethesda, Md., whose topic will be "Arteriosclerosis and Epidemiology." After 35 presentations the sessions will conclude with a demonstration on chromatographic partition of serum proteins, protein-bound lipids and protein-bound carbohydrates in rabbits, before, during, and after cholesterol feeding, by Dr. O. J. Pollak and George Chubaty, Kent General Hospital, Dover, Del.

Academy of Psychosomatic Medicine.—At a recent meeting in New York, the American Academy of Psychosomatic Medicine was founded "to advance the scientific knowledge and practice of those aspects of medicine which relate to the interaction of mind, body, and environment, by means of study, laboratory and clinical research, meetings, and discussions in cooperation with other workers in these and related fields." Membership will consist of chapter fellows (those who enrolled at the organizational meeting) and founding fellows (those who join before Jan. 1, 1954). Requirements for membership can be obtained from the secretary, Dr. Ethan Allan Brown, 75 Bay State Road, Boston. The other officers elected at the founding meeting included Dr. William Kaufman, Bridgeport, Conn., president, Dr. Bernard B. Raginsky, Montreal, vice-president, and Dr. Alfred J. Cantor, Flushing, N. Y., treasurer. The first scientific meeting will be held in New York in June, 1954.

Meeting of Pathologists.—The College of American Pathologists (North Central region) and the Minnesota Society of Clinical Pathologists will hold a joint meeting at the Mayo Clinic and Foundation, Rochester, Minn., Nov. 6-7. On both days demonstrations in surgical pathology will be conducted, 9-10 a. m. A program on clinical pathology will be presented Friday, 10:30 a. m. to 12 noon, and a program on surgical pathology, Saturday at the same time. Friday afternoon will be devoted to a tour and demonstrations of the clinical laboratories (1914 building) and medical sciences building. The business meeting of the Minnesota Society of Clinical Pathologists will follow the dinner at the Rochester Country Club, 6:30 p. m. Friday, at which Dr. William V. Knoll, Duluth, Minn., will serve as toastmaster. Wives of visiting men are invited to the dinner and to a luncheon Saturday, 12:15-1:30 p. m., at the Mayo Foundation House (compliments of the Mayo Clinic and Foundation). After the luncheon a program on pathologic anatomy will be presented.

Program on Sterility.—The American Society for the Study of Sterility will hold a regional open meeting at Deep Well Ranch, Palm Springs, Calif., Nov. 6-8. The sessions will open Friday, 8-10:30 p. m., to consider medicosociological aspects of infertility. Dr. William B. Thompson, Los Angeles, will serve as moderator for an adoption panel. Paul Popenoe, Los Angeles, will speak on sexual problems and their relation to infertility. The session will end with an artificial insemination panel, in which Dr. Frances E. Shields, Monterey, Calif., will consider the clinical aspects and Dr. John O. Haman, San

Francisco, legal problems arising from artificial insemination. The afternoon session will include: (1) consideration of diagnostic measures in infertility; (2) a panel on the question of surgery in infertility; (3) prevention of infertility; and (4) common features in the processes of fertilization and immunity. The closing session Sunday, 10 a. m. to 12:30 p. m., will provide the following program:

An Adequate Program for Routine Investigation of the Sterile Couple, Richard R. Gratton, San Francisco.
Clinical Research Problems in Long-Standing Infertility Cases, Edward T. Tyler, Los Angeles.
Use of Testosterone Rebound Therapy in Male Infertility, M. James Whitelaw, San Francisco.
Clinical Use of Irradiation in Sterility Due to Ovarian Deficiency, Sheldon A. Payne, Los Angeles.
Genetic Aspects of Radiation Therapy, Edward B. Lewis, Ph.D., Pasadena, Calif.
Nutrition in Infertility, Samuel J. Glass, Los Angeles.

Registration is open to interested physicians and research workers; wives are cordially invited. Registration fee, $5, should be sent to Dr. Edward T. Tyler, 10911 Weyburn Ave., Los Angeles 24, or to Dr. John O. Haman, 490 Post St., San Francisco. There is no registration fee for hospital residents, interns, and members of the armed forces.

Cancer Society Meeting in New York.—The American Cancer Society will hold its annual meeting at the Hotel Commodore, New York, Nov. 3-4. "Cancer of the Lung: A Critical Evaluation" is the theme of the scientific session, which will open Tuesday with a paper, "Is Lung Cancer on the Increase—Evaluation of Present Day Evidence" by Harold F. Dorn, Ph.D., National Institutes of Health, Bethesda, Md. "Etiology: Occupational and Environmental Aspects" will next be considered in the following presentations: (1) The Place of Tobacco in the Etiology of Lung Cancer (Dr. Ernst L. Wynder and E. Cuyler Hammond, Sc.D., New York; (2) The Current Status of Air Pollution Studies in the Etiology of Lung Cancer (Dr. Paul Kotin, Los Angeles); (3) The Experimental Production of Lung Tumors (Howard B. Andervont, ScD., Bethesda, Md., and Dr. Harry S. N. Greene, New Haven, Conn.); (4) Potential Occupational Factors (Dr. William E. Smith, New York); and (5) The Geographic Considerations in the Lung Cancer Problem (Dr. Harold L. Stewart, Bethesda, Md.).

The detection aspects of control will be presented in the following papers:

Dividends and Defects of the Mass Survey Method in Detecting Lung Cancer, Lewis W. Guiss, Los Angeles.
Lung Cancer Yield in Mass Urban Chest X-Ray Series, Robert J. Anderson, Washington, D. C.
Public Education, Charles S. Cameron, New York.

In a presentation on diagnosis, Dr. Richard H. Overholt, Boston, will have as his subject, "The Direct Approach to Shadow and Substance." Techniques of diagnosis will be discussed by Dr. Leo G. Rigler, Minneapolis (Routine Chest Films in the Detection of Early Lung Cancer with Particular Attention to the Importance of Comparative Studies); Dr. Eugene P. Pendergrass, Philadelphia (Potential Application of Supervoltage Roentgen Rays in the Detection of Early Pulmonary Lesions); Dr. Peter A. Herbut, Philadelphia (Practical Applications of Exfoliative Cytology in the Early Diagnosis of Lung Cancer); and Dr. William F. Rienhoff, Baltimore, (The Value of Exploratory Thoracotomy in the Diagnosis of Unknown Pulmonary Lesions). The following papers on pathology will be presented:

Cancer of the Lung: One Disease?, Evarts A. Graham, St. Louis.
Biological Behavior of Carcinomas of the Lung as Influenced by Their Cellular Structures, Bela Halpert, Houston, Texas.
Multiple Foci of Origin of Lung Cancer, Lauren V. Ackerman, St. Louis.
Relationship of Pulmonary Adenomatosis to Cancer of the Lung, Hans F. Smetana, Washington, D. C.

The sessions will conclude with presentations on treatment:

The Operation to be Undertaken, Edward D. Churchill, Boston.
Results of Radical Pneumonectomy in Cancer of the Lung, John L. Pool, New York.
Surgical Palliation in Advanced Lung Cancer, Alton Ochsner, New Orleans.
Newer Modalities of Roentgen Rays in the Treatment of Cancer of the Lung, Hugh F. Hare, Los Angeles, and Milford D. Schulz, Boston.
Treatment of Advanced Lung Cancer by Chemical Methods, David A. Karnofsky, New York.

Prevalence of Poliomyelitis.—According to the National Office of Vital Statistics, the following number of reported cases of poliomyelitis occurred in the United States, its territories, and possessions in the weeks ended as indicated:

	Oct. 17, 1953		
Area	Paralytic Type	Total Cases Reported	Oct. 18, 1952 Total
New England States			
Maine	10	14	7
New Hampshire	..	..	2
Vermont	2	8	2
Massachusetts	12	29	23
Rhode Island	11	16	8
Connecticut	5	16	11
Middle Atlantic States			
New York	30	128	111
New Jersey	31	41	26
Pennsylvania	..	64	88
East North Central States			
Ohio	16	94	218
Indiana	..	17	90
Illinois	29	75	119
Michigan	36	85	201
Wisconsin	..	19	76
West North Central States			
Minnesota	14	49	224
Iowa	4	14	178
Missouri	12	36	66
North Dakota	2	8	8
South Dakota	..	8	36
Nebraska	3	5	75
Kansas	..	15	59
South Atlantic States			
Delaware	..	1	9
Maryland	8	13	9
District of Columbia	1	2	3
Virginia	20	29	22
West Virginia	10	19	26
North Carolina	6	13	26
South Carolina	1	7	6
Georgia	8	19	21
Florida	16	48	26
East South Central States			
Kentucky	6	7	86
Tennessee	3	11	31
Alabama	5	8	6
Mississippi	..	2	12
West South Central States			
Arkansas	4	6	14
Louisiana	2	2	10
Oklahoma	4	8	28
Texas	10	28	30
Mountain States			
Montana	3	5	16
Idaho	..	1	16
Wyoming	1	1	10
Colorado	4	5	41
New Mexico	..	3	30
Arizona	2	4	14
Utah	..	6	11
Nevada	..	..	9
Pacific States			
Washington	..	19	49
Oregon	12	17	31
California	78	144	197
Territories and Possessions			
Alaska	..	..	4
Hawaii	2	..	2
Puerto Rico	1	..	..
Total	424	1,172	2,423

FOREIGN

Courses on Hepatic Biopsy and Laparoscopy.—A second course on hepatic biopsy puncture and a first course on laparoscopy will be given Nov. 2-14 in the Servicio de Patología Digestiva of the Hospital de la Santa Cruz y San Pablo in Barcelona, Spain. Each course is limited to 10 scholars. The fee is 500 pesetas, and details are obtainable from Administración del Hospital de la Santa Cruz y San Pablo.

Nelson Laboratory in Vienna.—A new Nelson laboratory was recently opened in Vienna, in the buildings in which Prof. Rudolf Müller (best remembered for the Müller-Oppenheim reaction) did his pioneer work in venereal serology. Because of the difficulty in preparing adequate amounts of the materials necessary for the Nelson test, only a small number of Nelson laboratories are now functioning in Europe and North and South America.

EXAMINATIONS AND LICENSURE

BOARDS OF MEDICAL EXAMINERS

Alabama: *Examination.* Montgomery, June 22-24, 1954. Sec., Dr. D. G. Gill, 537 Dexter Ave., Montgomery.

Arkansas:* *Examination.* Little Rock, Nov. 5-6. Sec., Dr. Joe Verser, Harrisburg.

Colorado:* *Examination.* Denver, Dec. 15-16. Final date for filing application is Nov. 14. Executive Secretary, Miss Beulah H. Hudgens, 831 Republic Bldg., Denver 2.

Connecticut:* *Regular. Examination.* New Haven, Nov. 10-11. Reciprocity actions are taken continuously. Secretary to the Board, Dr. Creighton Barker, 160 St. Ronan St., New Haven. *Homeopathic.* Derby, Nov. 10-11. Sec., Dr. Donald A. Davis, 38 Elizabeth St., Derby.

Delaware: Dover, Jan. 12-14, 1954. Sec., Dr. Joseph S. McDaniel, 229 South State St., Dover.

Florida:* *Examination.* Jacksonville, Nov 22-24. Sec., Dr. Homer L. Pearson, 901 N.W. 17th St., Miami 36

Guam: The Commission on Licensure will meet whenever a candidate appears or submits his credentials. Director of Medical Services, Guam Memorial Hospital, Agana

Hawaii: Honolulu, Jan. 11-14. *Examination.* Sec., Dr. I. L. Tilden, 1020 Kapiolani St., Honolulu.

Idaho: Boise, Jan. 11-13, 1954. Executive Secretary, Mr. Armand L. Bird, 364 Sonna Bldg., Boise.

Iowa:* *Examination.* Des Moines, Dec. 7-9. Sec., Dr. M. A. Royal, 506 Fleming Bldg.. Des Moines.

Kansas: Topeka, Dec. 9-10. Sec., Dr. O. W. Davidson, 864 New Brotherhood Bldg., Kansas City.

Kentucky: *Examination.* Louisville, Dec. 7-9. Sec., Dr. Bruce Underwood, 620 S. 3rd St., Louisville.

Maine: Portland, Nov. 12-13. Sec., Dr. Adam P. Leighton, 192 State Street, Portland.

Maryland: *Examination.* Baltimore, Dec. 8-11. Sec., Dr. Lewis P. Gundry, 1215 Cathedral St, Baltimore 1.

Mississippi: *Reciprocity.* Jackson, December. Assistant Secretary, Dr. R. Whitfield, Old Capitol, Jackson 113.

Nebraska:* *Examination.* Omaha, June 1954. Director, Mr. Husted K. Watson, 1009 State Capitol Bldg., Lincoln.

North Dakota. *Examination.* Grand Forks, Jan. 6-9, 1954. *Reciprocity.* Grand Forks, Jan. 9. Sec., Dr. C. J. Glaspel, Grafton.

Ohio: *Examination.* Columbus, Dec. 17-19. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus 15.

Oklahoma:* *Examination.* Oklahoma City, June 9-10. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

Pennsylvania: *Examination.* Philadelphia, January 1954. Acting Secretary, Mrs. Margaret G. Steiner, Box 911, Harrisburg.

South Dakota:* *Examination.* Sioux Falls, Jan. 19-20, 1954. Reciprocity can be obtained at any time between meetings of board. Executive Secretary, Mr. John C. Foster, 300 First National Bank Bldg., Sioux Falls.

Texas: Fort Worth, Nov. 12-14. Reciprocity applicants must be completed 30 days prior to the meeting date. Sec., Dr. M. H. Crabb, 1714 Medical Arts Bldg., Fort Worth 2.

Utah: *Examination and Reciprocity.* Salt Lake City, Nov. 17. Director, Mr. Frank E. Lees, 314 State Capitol, Salt Lake City 1.

Vermont: *Examination.* Burlington, Feb. 1954. Sec., Dr. F. J. Lawliss, Richford.

Virginia: *Examination.* Richmond, Dec. 3-5. *Reciprocity.* Richmond, Dec. 2. Address: Board of Medical Examiners, 631 First St. S.W., Roanoke.

Virgin Islands: *Examination.* Charlotte Amalie, Nov. 11-12. Sec., Dr. Earle M. Rice, Box 90, St. Thomas.

Wisconsin:* *Examination and Reciprocity.* Madison, Jan. 12-14, 1954. Sec., Dr. A. G. Koehler, 46 Washington Blvd., Oshkosh.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Alaska: On application. Juneau or other towns in Territory as decided by Board. *Reciprocity.* On application. Sec., Dr. C. Earl Albrecht, Box 1931, Juneau.

Florida: *Examination.* Gainesville, Nov. 7. Sec., Mr. M. W. Emmel, Box 340, University of Florida, Gainesville.

Oklahoma: *Examination.* Oklahoma City, April 16-17. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

Oregon: *Examination.* Portland, Dec. 5. Sec., Dr. Charles D. Byrne, University of Oregon, Eugene. (Examinations during 1954 will be held in Portland on March 6, June 5, Sept. 11 and Dec. 4.)

South Dakota: *Examination.* Vermillion, Dec. 4-5. Sec., Dr. Gregg M. Evans, 310 E. 15th St., Yankton.

Wisconsin: *Examination.* Milwaukee, Dec. 5. Final date for filing application is Nov. 27. Madison, April 3. Final date for filing application is March 26. Sec., Dr. W. H. Barber, 621 Ransom St., Ripon.

MEETINGS

AMERICAN MEDICAL ASSOCIATION: Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

1953 Clinical Meeting, St. Louis, Dec 1-4.

1954 Annual Meeting, San Francisco, June 21-25.

1954 Clinical Meeting, Miami, Florida, Nov. 30-Dec. 3.

1955 Annual Meeting, Atlantic City, N. J., June 6-10.

1955 Clinical Meeting, Boston, Nov. 29-Dec. 2.

American Academy of Dermatology and Syphilology, Palmer House, Chicago, Dec. 5-10. Dr. John E. Rauschkolb, P. O. Box 6565, Cleveland 1, Secretary.

American Academy of Obstetrics and Gynecology, Netherland Plaza Hotel, Cincinnati, Dec. 14-16. Dr. C. Paul Hodgkinson, 116 South Michigan Blvd., Chicago 3, Secretary.

American Academy of Tropical Medicine, Brown Hotel, Louisville, Ky., Nov. 12-14. Dr. E. Harold Hinman, University of Puerto Rico, School of Medicine, San Juan 22, P. R., Secretary.

American Cancer Society, New York, Nov. 2-6. Dr. Charles S. Cameron, 47 Beaver St., New York 4, Medical Director.

American Clinical and Climatological Association, The Homestead, Hot Springs, Va., Nov. 2-4. Dr. Marshall N. Fulton, 124 Waterman St., Providence 6, R. I., Secretary.

American College of Cardiology, Hotel Statler, Cleveland, Ohio, Nov. 6-7. Dr. Philip Reichert, 480 Park Ave., New York 22, Secretary.

American Public Health Association, Hotel New Yorker and Hotel Statler, New York, Nov. 9-13. Dr. Reginald M. Atwater, 1790 Broadway, New York 19, Executive Secretary.

American School Health Association, Hotel New Yorker, New York, Nov. 9-13. Dr. A. O. DeWeese, 515 East Main St., Kent, Ohio, Secretary.

American Society for the Study of Arteriosclerosis, Hotel Knickerbocker, Chicago, Nov. 1-2. Dr. O. J. Pollak, P. O. Box 228, Dover, Del., Secretary.

American Society of Tropical Medicine and Hygiene, Brown Hotel, Louisville, Ky., Nov. 12-14. Dr. John E. Larsh Jr., University of North Carolina, School of Public Health, Chapel Hill, N. C., Secretary.

Association of Military Surgeons of the United States, Hotel Statler, Washington, D. C., Nov. 8-11. Dr. R. R. Sayers, Armed Forces Institute of Pathology, Washington 25, D. C., Secretary.

Association for Research in Nervous and Mental Diseases, Hotel Roosevelt, New York, Dec. 11-12. Dr. Clarence C. Hare, 710 West 168th St., New York 32, Secretary.

Association of State and Territorial Health Offcers, Washington Hotel, Washington, D. C., Nov. 4-7. Dr. John D. Porterfield, 306 Ohio Depts. Bldg., Columbus 15, Ohio, Secretary.

Central Association of Obstetricians and Gynecologists, The Shamrock, Houston, Texas, Nov. 5-7. Dr. Harold L. Gainey, Suite 602, 116 South Michigan Ave., Chicago 3, Secretary.

Conference of Public Health Veterinarians, Hotel New Yorker, New York, Nov. 9. Dr. James Lieberman, U. S. Public Health Service, Washington 25, D. C., Secretary.

Congress of Neurological Surgeons, Roosevelt Hotel, New Orleans, Nov. 12-14. Dr. B. W. Cannon, 1092 Madison Ave., Memphis, Tenn., Secretary.

Interstate Post Graduate Medical Association of North America, Palmer House, Chicago, Nov. 2-5. Dr. E. R. Schmidt, 1300 University Ave, Madison 5, Wisconsin, Secretary.

Inter-Society Cytology Council, Philadelphia, Nov. 19-20. Dr. Paul F. Fletcher, 634 North Grand Blvd., St. Louis 3, Secretary.

National Association for Mental Health, Hotel Carter, Cleveland, Oct. 31-Nov. 2. Dr. George S. Stevenson, 1790 Broadway, New York 19, Medical Director.

National Society for Crippled Children and Adults, Palmer House, Chicago, Nov. 12-14. Mr. Lawrence J. Linck, 11 South LaSalle St., Chicago 3, Secretary.

National Society for the Prevention of Blindness, New York, Dec. 18. Dr. Franklin M. Foote, 1790 Broadway, New York 19, Executive Director.

North Pacific Surgical Association, Victoria, B. C., Nov. 20-21. Dr. John A. Duncan, 509 Olive Way, Seattle, Secretary.

Pacific Northwest Society of Pathologists, Eugene, Oregon, Nov. 6-7. Dr. John L. Whitaker, 315 South K St., Tacoma 3, Wash., Secretary.

Radiological Society of North America, Palmer House, Chicago, Dec. 13-18. Dr. Donald S. Childs, 713 East Genesee St., Syracuse 2, N. Y., Secretary.

Regional Meetings, American College of Physicians:

- Michigan, H. H. Rackham Auditorium, Ann Arbor, Dec. 5. Dr. H. Marvin Pollard, 1313 East Ann St., Ann Arbor, Governor.
- Midwest—Ill., Ind., Iowa, Minn., Wis.—Hotel Schroeder, Milwaukee, Nov. 21. Dr Francis D. Murphy, 536 West Wisconsin Ave., Milwaukee 3, Chairman.
- New Jersey, Trenton, Nov. 4. Dr. Edward C. Klein Jr., 73 Lincoln Park, Newark 2, Governor.
- North Carolina, Chapel Hill, Dec. 3. Dr. Elbert L. Persons, Duke Hospital, Durham, Governor.

Regional Meetings, American Rheumatism Association:

- Ohio and Western Pennsylvania, Mayflower Hotel, Akron, Ohio, Nov. 11. Dr. Roger Q. Davis, 1405 Goodyear Blvd., Akron 5, Ohio, Chairman.

Southern California Psychiatric Society, Hotel Statler, Los Angeles, Nov. 14. Dr. Jerome M. Kummer, P. O. Box 305, Santa Monica, Secretary.

Southern Surgical Association, The Homestead, Hot Springs, Va., Dec. 8-10. Dr. John C. Burch, 2112 West End Ave., Nashville 5, Tenn., Secretary.

Western Surgical Association, The Drake, Chicago, Dec. 3-5. Dr. Michael Mason, 154 East Erie St., Chicago 11, Secretary.

FOREIGN

Association of Surgeons of Great Britain and Ireland, Leeds, England, May 13-15, 1954. Dr. Henry W. S. Wright, 45 Lincoln's Inn Fields, London W.C.2, England, Honorary Secretary.

British Medical Association, Glasgow, Scotland, July 1-9, 1954. Dr. A. MaCrae, B.M.A. House, Tavistock Square, London, W.C.1, England, Secretary.

Canadian Medical Association, Vancouver, B. C., Canada, June 18-22, 1954. Dr. T. C. Routley, 135 St. Clair Ave. W., Toronto 5, Ont., Canada, General Secretary.

Conference of International Union Against Tuberculosis, Madrid, Spain, Sept. 26-Oct. 2, 1954. Secretariat, Escuela de Tisiologia, Ciudad Universitaria, Madrid, Spain.

Congress of International Association for the Prevention of Blindness, New York, N. Y., U. S. A., Sept. 12-17, 1954. Professor Franceschetti, 2 Avenue Mirmot, Geneva, Switzerland, Secretary-General.

Congress of International Society of Surgery, Paris, France, May 21-22, 1954. Dr. L. Dejardin, 141, rue Belliard, Brussels, Belgium, General Secretary.

International Cancer Congress, Sao Paulo, Brazil, July 23-29, 1954. Prof. A. Prudente, 171 rua Benjamin Constante, Sao Paulo, Brazil, President.

International Conference on Thrombosis and Embolism, Basle, Switzerland, July 15-19, 1954. Dr. W. Merz, Chief Medical Officer, Gynecological Clinic, University of Basle, Basle, Switzerland, Hon. Secretary.

International Congress of Clinical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Dr. Robert A. Moore, Washington University School of Medicine, St. Louis 10, Missouri, U. S. A., Chairman, Committee on Arrangements.

International Congress on Group Psychotherapy, Toronto, Ont., Canada, Aug. 12-14, 1954. Dr. J. L. Moreno, Room 327, 101 Park Ave., New York 17, N. Y., U. S. A., Director of Organizing Committee.

International Congress of Hematology, Paris, Sept. 6-11, 1954. Dr. Jean Bernard, 86 rue d'Assas, Paris 6ᵉ, France, Secretary.

International Congress of the History of Medicine, Rome and Salerno, Italy, Sept. 13-20, 1954. For information write: Segreteria XIV Congresso Internazionale di Storia della Medicina, Instituto di Storia della Medicine, Citta Universitaria, Rome, Italy.

International Congress of Hydroclimatism and Thalassotherapy, Dubrovnik, Yugoslavia, May 8-16, 1954. Prof. C. Plavsic, Zeleni Venac 1, Belgrade, Yugoslavia, Secretary General.

International Congress of Industrial Medicine, Naples, Italy, Sept. 13-19, 1954. Professor Scipione Caccuri, Director, Institute of Industrial Medicine Policlinico, Naples, Italy, Chairman, Organizing Committee.

International Congress of Internal Medicine, Stockholm, Sweden, Sept. 15-18, 1954. Professor Anders Kristenson, Karolinska Sjukhuset, Stockholm 60, Sweden, Secretary-General.

International Congress of International College of Surgeons, Sao Paulo, Brazil, April 26-May 2, 1954. Dr. Max Thorek, 1516 Lake Shore Drive, Chicago, Illinois, U. S. A., Secretary-General.

International Congress on Mental Health, University of Toronto, Toronto, Ontario, Canada, Aug. 14-21, 1954. For information write: Executive Officer, International Congress on Mental Health, 111 St. George St., Toronto, Ontario, Canada.

International Congress of Nutrition, Amsterdam, Netherlands, Sept. 14-18, 1954. For information write: Dr. M. van Eekelen, Centraal Instituut voor Voedingsonderzoek T.N.O., 61 Catharynesingel, Utrecht, Netherlands.

International Congress on Obstetrics and Gynecology, Geneva, Switzerland, July 26-31, 1954. Dr H. de Watteville, Maternité Hôpital Cantonal, Geneva, Switzerland, President.

International Congress of Ophthalmology, University of Montreal and McGill University, Montreal, Canada, Sept. 10-11, 1954, and Waldorf-Astoria, New York, N. Y., U. S. A., Sept. 12-17, 1954. Dr. William L. Benedict, 100 First Avenue Building, Rochester, Minnesota, U. S. A., Secretary-General.

International Congress of Orthopedic Surgery and Traumatology, Berne, Switzerland, Aug. 30-Sept. 3, 1954. For information write: Professor M. Dubois, Isle-Hospital, Berne, Switzerland.

International Congress of Psychology, Montreal, Canada, June 7-12, 1954. For information write: Prof. H. S. Langfeld, International Union of Scientific Psychology, Eno Hall, Princeton University, Princeton, N. J., U. S. A.

International Congress for Psychotherapy, Zurich, Switzerland, July 21-24, 1954. Dr. H. K. Fierz, Theaterstrasse 12, Zurich 1, Switzerland, Secretary General.

International Gerontological Congress, London and Oxford, England, July 12-22, 1954. Prof. R. E. Tunbridge, General Infirmary, Department of Medicine, The University, Leeds, England, President.

International Poliomyelitis Congress, Rome, Italy, Sept. 6-10, 1954. Mr. Stanley E. Henwood, 120 Broadway, New York 5, N. Y., U. S. A., Executive Secretary.

International Society of Blood Transfusion, Paris, France, Sept. 12-19, 1954. For information write: Colonel Julliard, Societe Internationale de Transfusion Sanguine, 53 Boulevard Diderot, Paris 12ᵉ, France.

International Society for Cell Biology, Leiden, Netherlands, Sept. 2-9, 1954. Professor Peter J. Gaillard, University of Leiden, Leiden, Netherlands, Secretary.

International Society of Geographical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Professor Fred C. Roulet, Hebelstrasse 24, Basle, Switzerland, Secretary-General.

Journees Medicales, Paris, France, April 21-25, 1954. For information write: Secretariat of the Journees, 12, rue Pierre-Geofroix, Colombes (Seine) France.

Latin American Congress of Otorhinolaryngology, Caracas, Venezuela, Feb. 21-25, 1954. Dr. Victorino Marquez Reveron, Centro, Medico, Caracas, Venezuela, Secretary-General.

Pacific Science Congress, Quezon City and Manila, Philippines, Nov. 16-28. Dr. Patrocinio Valenzuela, College of Pharmacy, University of the Philippines, Quezon City, Philippines, Secretary-General.

Pan American Congress of Otorhinolaryngology and Bronchoesophagology, Mexico, D.F., Mexico, Feb. 28-March 4, 1954. Dr. Pedro Hernandez Gonzalo, 8 No. 358, Vedado, Havana, Cuba, General Secretary.

Pan American Medical Association, International Medical Cruise Congress, S. S. Nieuw Amsterdam, Jan. 6-22, 1954. Dr. Joseph J. Eller, 745 Fifth Avenue, New York 22, N. Y., U. S. A., Executive Director.

Pan-Pacific Surgical Congress, Honolulu, Hawaii, Oct. 7-18, 1954. Dr. F. J. Pinkerton, Suite 7, Young Bldg., Honolulu 13, Hawaii, Director General.

Persian Gulf Medical Society, Dhahran, Saudi Arabia, Dec. 7-8. Dr. N. J. Conan Jr., Department of Internal Medicine, Arabian American Oil Company, Dhahran, Saudi Arabia, Secretary.

Sectional Meeting, American College of Surgeons, London, England, May 17-19, 1954. Dr. Michael L. Mason, 40 East Erie St., Chicago 11, Ill., U. S. A., Secretary.

South American Congress of Angiology, Sao Paulo, Brazil, July 1954. For information write: Dr. Rubens Carlos Mayall, Rua Senador Vergueiro 73, Rio de Janeiro, Brazil, S. A.

World Congress of Cardiology, Washington, D. C., and Bethesda, Md., U. S. A., Sept. 12-17, 1954. Dr. L. W. Gorham, 44 East 23d St., New York 10, N. Y., U. S. A., Secretary-General.

World Congress of International Society for the Welfare of Cripples, The Hague, Netherlands, Sept. 13-17, 1954. For information write: D. C. Schaap, Centrale Vereniging, Apeldoorschweg 51, Arnhem, Netherlands.

World Federation of Occupational Therapists, Edinburgh, Scotland, August 17, 1954.

World Medical Association, Rome, Italy, Sept. 26-Oct. 2, 1954. Dr. Louis H. Bauer, 345 East 46th St., New York 17, N. Y., U. S. A., Secretary-General.

DEATHS

Smith, Troy, Chicago; Indiana University School of Medicine, Indianapolis, 1917; appointed a lieutenant in the medical reserve corps of the U. S. Army during World War I; received a citation for examining draftees during World War II; member of the Interstate Post Graduate Assembly of North America and the National Medical Association; treasurer of the Cook County Physicians Association; senior attending physician at Provident Hospital, where he died Sept. 21, aged 62, of intestinal obstruction and general peritonitis, following operation for carcinoma of the sigmoid.

Abrams, Corydon Jackson ⊕ Spokane, Wash.; Kansas City (Mo.) Medical College, 1905; an Associate Fellow of the American Medical Association; formerly county coroner; served on the staffs of the Deaconess Hospital, St. Luke's Hospital, and Sacred Heart Hospital, where he died Sept. 7, aged 75, of heart disease.

Austin, Fred H. ⊕ Bloomington, Ind.; Cincinnati College of Medicine and Surgery, 1890; an Associate Fellow of the American Medical Association; affiliated with Bloomington Hospital; died Sept. 4, aged 83, of ruptured appendix and peritonitis.

Balsinger, William Ernest, Los Angeles; University of Pennsylvania Department of Medicine, Philadelphia, 1907; died Aug. 22, aged 70.

Barkley, A. Wray ⊕ Pittsburgh; Western Pennsylvania Medical College, Pittsburgh, 1901; served during World War I; following World War II received a citation from the late President Roosevelt for his work in examining draftees; died in Orange, Calif., June 27, aged 74, of cerebral thrombosis.

Bower, Ernest C., Davenport, Iowa; the Hahnemann Medical College and Hospital, Chicago, 1889; died in the Mercy Hospital Sept. 8, aged 86, of arteriosclerotic heart disease.

Brown, Columbus, Herrin, Ill.; Missouri Medical College, St. Louis, 1898; died in the Herrin Hospital Sept. 5, aged 84, of arteriosclerotic heart disease.

Bryant, Daniel John, Cleveland; Cleveland Medical College, Homeopathic, 1897; affiliated with Huron Road Hospital for many years; died in Astatula, Fla., Sept. 11, aged 80.

Bullen, Benjamin Wells Jr. ⊕ Greenwich, Conn.; Cornell University Medical College, New York, 1941; specialist certified by the American Board of Pediatrics; served during World War II; affiliated with Greenwich Hospital and the New York Hospital; found dead on the beach at Fire Island, N. Y., Sept. 1, aged 40.

Caldwell, John Ewart ⊕ Detroit; McGill University Faculty of Medicine, Montreal, Canada, 1924; member of the Industrial Medical Association; served during World Wars I and II; died Sept. 11, aged 55.

Caldwell, Robert Dennis ⊕ Lynchburg, Va.; Medical College of Virginia, Richmond, 1919; served during World War I; affiliated with Marshall Lodge Memorial, Virginia Baptist, and Lynchburg General hospitals; died Aug. 18, aged 59.

Cartmell, Harry D. ⊕ Greenville, Ill.; Northwestern University Medical School, Chicago, 1905; an Associate Fellow of the American Medical Association; at one time county coroner; died in the Mark Greer Hospital, Vandalia, Sept. 2, aged 73, of carcinoma of the prostate.

Clagett, Arthur Neville ⊕ Evanston, Ill.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1905; served during World War I; affiliated with Bethany Hospital in Chicago, where he died Sept. 20, aged 82, of coronary thrombosis and arteriosclerotic heart disease.

Clarkson, James A. Coleman ⊕ Lewistown, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1887; member of the House of Delegates of the American Medical Association in 1928; for many years secretary of the Mifflin County Medical Society; on the staff of Lewiston Hospital, where he was formerly chief of surgery, and from 1926 to 1929 secretary of the staff; died Aug. 21, aged 93.

Cochran, Marcellus Francis, Newnan, Ga.; Vanderbilt University School of Medicine, Nashville, Tenn., 1914; died June 17, aged 60.

Cox, Henry McCall ⊕ Paducah, Ky.; Vanderbilt University School of Medicine, Nashville, Tenn., 1919; member of the Tennessee State Medical Association; area health officer at Shawnee Steam Plant; died July 7, aged 59, of coronary occlusion.

Dobbins, Thomas Carson, Denton, Texas; Louisville (Ky.) Medical College, 1903; formerly member of the school board; died Sept. 1, aged 74, of coronary occlusion.

Dohrmann, George ⊕ Chicago; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1901; past president of the surgical staff of Grant Hospital; died Sept. 25, aged 76, of recurrent carcinoma of the colon.

Dye, James A., Chloe, W. Va.; Starling Medical College, Columbus, 1891; affiliated with Gordon Memorial Hospital in Spencer, where he died Sept. 20, aged 86, of cerebral hemorrhage.

Dyko, William Edward ⊕ Chicago; Chicago Medical School, 1936; affiliated with Alexian Brothers and St. Joseph's hospitals; died Sept. 26, aged 47, of coronary thrombosis and arteriosclerosis.

Engle, John Max ⊕ Portland, Ind.; Indiana University School of Medicine, Indianapolis, 1940; served overseas in the Pacific area during World War II; past president of the Jay County Medical Society; affiliated with Jay County Hospital, where he died Sept. 3, aged 37, of coronary occlusion.

Fox, Charles Moses ⊕ Chicago; Chicago College of Medicine and Surgery, 1913; fellow of the American College of Surgeons; formerly on the faculty of Loyola University School of Medicine; awarded the distinguished service cross for extraordinary heroism in action during World War I; affiliated with Oak Park (Ill.) Hospital, where he died Sept. 23, aged 73, of uremia.

Franklin, Paul Hutchins ⊕ Pittsburgh; University of Pennsylvania Department of Medicine, Philadelphia, 1899; on the staff of the Western Pennsylvania Hospital; died Sept. 3, aged 78.

French, William Gayle ⊕ Evansville, Ind.; the Hahnemann Medical College and Hospital, Chicago, 1906; member of the National Gastroenterological Association; formerly county coroner; died Sept. 11, aged 68, of coronary thrombosis.

Froyd, Melvin Frankford, Roseburg, Ore.; Loyola University School of Medicine, Chicago, 1918; ward physician, Veterans Administration Hospital; died near Leggett, Calif., July 14, aged 62, of injuries received in an automobile accident.

Gibson, William Henry ⊕ Booneville, Ky.; Hospital College of Medicine, Louisville, 1906; secretary of the Owsley County Medical Society; served as chairman of the county board of health; president of the Farmers State Bank; died Sept. 7, aged 71.

Gray, Denver Francis ⊕ New Orleans; Medical Department of Tulane University of Louisiana, New Orleans, 1912; died July 29, aged 67.

Hagen, Henry Otto, New Richland, Minn.; Rush Medical College, Chicago, 1903; died in St. Peter Aug. 31, aged 76, of arteriosclerosis.

⊕ Indicates Member of the American Medical Association.

Herron, William Floyd ⊕ Aurora, Mo.; Omaha Medical College, 1901; for many years county health officer, and health officer of the city of Aurora; affiliated with Aurora Hospital, where he died Sept. 6, aged 75, of food poisoning.

High, Charles Vernell Jr., Midland, Mich.; Detroit College of Medicine and Surgery, 1914; past president of the Midland County Medical Society; found dead Aug. 20, aged 62.

Hill, Walter Coit ⊕ Cleveland; Western Reserve University Medical Department, Cleveland, 1903; specialist certified by the American Board of Radiology; member of the American Roentgen Ray Society, Radiological Society of North America, and the American College of Radiology; served during World War I; formerly assistant superintendent, Lakeside Hospital; died Sept. 6, aged 77, of cancer of the pancreas.

Houser, Daniel Cary ⊕ Urbana, Ohio; Starling Medical College, Columbus, 1897; past president of the Ohio State Medical Association and the Champion County Medical Society; elected councilor of the Second District Medical Society in 1925; served during World War I; member of the American Academy of General Practice; died Aug. 4, aged 86, of chronic myocarditis and arteriosclerosis.

Houston, Grant ⊕ Joliet, Ill.; the Hahnemann Medical College and Hospital, Chicago, 1894; fellow of the American College of Surgeons; past president of the Will-Grundy Counties Medical Society; affiliated with St. Joseph's Hospital and the Silver Cross Hospital, where he died Sept. 24, aged 88, of cerebral hemorrhage.

Ikins, Ray George ⊕ Lafayette, Ind.; Indiana University School of Medicine, Indianapolis, 1919; fellow of the American College of Surgeons; served during World Wars I and II; affiliated with Lafayette Home Hospital and St. Elizabeth Hospital; died Sept. 28, aged 57, of primary mediastinal carcinoma.

Jackson, John Wagner, Fort Plain, N. Y.; University and Bellevue Hospital Medical College, New York, 1921; served during World War I; formerly on the staffs of the New York and Doctors hospitals in New York City; died Aug. 7, aged 59, of angina pectoris.

Johnson, Rezin Pritchard, Jacksonville, Ill.; Chattanooga (Tenn.) Medical College, 1897; served during World War I; formerly affiliated with the Jacksonville State Hospital; died Sept. 18, aged 81, of coronary occlusion.

Kemper, Americus Judson ⊕ Lost Creek, W. Va.; Eclectic Medical Institute, Cincinnati, 1903; an Associate Fellow of the American Medical Association; for many years county health officer; died Sept. 12, aged 80, of a heart attack.

Klein, Harry, Manasquan, N. J.; University and Bellevue Hospital Medical College, New York, 1909; died in Fitkin Memorial Hospital, Neptune, Aug. 2, aged 64, of arteriosclerotic heart disease and occlusion of the ascending aorta.

McIntosh, Arthur Merrill ⊕ Berkeley, Calif.; University of California Medical School, San Francisco, 1900; served during World War I; affiliated with Alta Bates and Herrick Memorial hospitals; died Sept. 14, aged 75, of arteriosclerosis.

Marshall, William Norman, Florence, Texas; Louisiana State University School of Medicine, New Orleans, 1948; served in the U. S. Navy from 1942 to 1946; formerly affiliated with the Veterans Administration Hospital in Big Springs; died recently, aged 31, as a result of a head injury received in an automobile accident.

Miller, James Edwin, Steubenville, Ohio; Western Pennsylvania Medical College, Pittsburgh, 1894; served in France during World War I; member of the Radiological Society of North America; for many years affiliated with Ohio Valley Hospital, where he died Sept. 1, aged 84, of carcinoma of the prostate.

Nowlin, Ralph Robert, State Sanatorium, Ark.; University of Texas School of Medicine, Galveston, 1920; member of the American Trudeau Society; at one time instructor in medicine at his alma mater; served during World War I; assistant to the medical director, Arkansas Tuberculosis Sanatorium; died Sept. 5, aged 60, of coronary thrombosis.

Reinicke, Edward Louis ⊕ Dubuque, Iowa; St. Louis College of Physicians and Surgeons, 1902; died in the Finley Hospital June 22, aged 73, of bronchogenic carcinoma and generalized arteriosclerosis.

Rogers, Walter Ferrier Jr. ⊕ Syracuse, N. Y.; Syracuse University College of Medicine, 1943; certified by the National Board of Medical Examiners; specialist certified by the American Board of Internal Medicine; assistant professor of medicine at his alma mater, now known as State University of New York College of Medicine; member of the American Federation of Clinical Research, American Diabetic Society, and the Endocrine Society; died Sept. 18, aged 35.

Sartor, Thomas Ryan ⊕ De Ridder, La.; Medical Department of Tulane University of Louisiana, New Orleans, 1905; on the staff of the Beauregard Memorial Baptist Hospital; died Sept. 6, aged 72, of heart failure.

Seiffert, Isadore ⊕ Forest Hills, N. Y.; Eclectic Medical College of the City of New York, 1906; served on the staff of the Bronx Hospital in New York City; died Aug. 19, aged 68, of carcinoma of the pylorus.

Silverman, Max Kaufman ⊕ Long Beach, N. Y.; Baltimore Medical College, 1913; affiliated with Long Beach Memorial Hospital, where he died July 4, aged 63, of myocardial infarction.

Sodaro, Anthony ⊕ Chicago; Loyola University School of Medicine, Chicago, 1916; affiliated with St. Anne's Hospital, Mother Cabrini Hospital, and the Oak Park (Ill.) Hospital, where he died Sept. 24, aged 69, of coronary thrombosis.

Stanbery, Henry, Cincinnati; Miami Medical College, Cincinnati, 1899; served during World War I; member of the American Academy of Ophthalmology and Otolaryngology; died Sept. 2, aged 80, of cardiovascular disease.

Stokes, Merle Benefiel ⊕ Houston, Texas; Rush Medical College, Chicago, 1909; specialist certified by the American Board of Surgery; member of the American Association for the Surgery of Trauma; fellow of the American College of Surgeons; served during World War I; on the consulting staff of Memorial Hospital and on the honorary staff of St. Joseph's Infirmary, where he died Sept. 11, aged 73, of pulmonary embolus.

Stull, Samuel Lewis, Vine Grove, Ky.; University of Louisville (Ky.) Medical Department, 1917; died in Veterans Administration Hospital, Louisville, May 3, aged 67, of cerebral thrombosis and arteriosclerosis.

Taylor, Herbert William ⊕ Haverford, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1919; certified by the National Board of Medical Examiners; for many years physician for the Haverford College; affiliated with Bryn Mawr (Pa.) Hospital; died in Mercy Hospital, Watertown, N. Y., Aug. 17, aged 62, of injuries received in an automobile accident.

Teaford, Schuyler Ferree ⊕ Paoli, Ind.; Hospital College of Medicine, Louisville, 1898; served during World War I; for many years county health officer; died in King's Daughters Hospital, Madison, Aug. 23, aged 80, of cancer of the colon.

Truitt, Berton Cleveland, Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1908; died Aug. 21, aged 67, of carcinoma of the lung.

Waffle, Clara Wilhelmena Reames, Astoria, Ore.; University of Oregon Medical School, Portland, 1907; at one time city health officer; affiliated with St. Mary's and Columbia hospitals; died Aug. 31, aged 79, of cerebral hemorrhage.

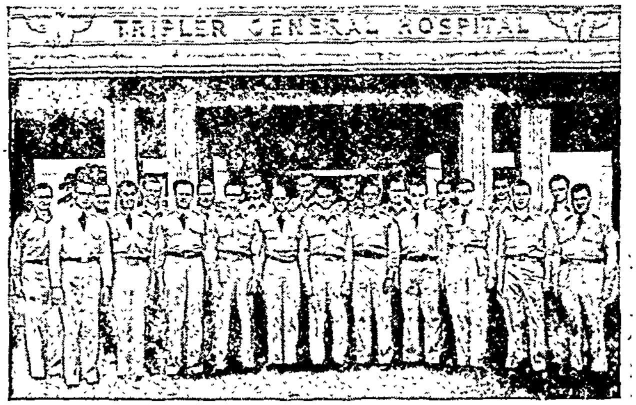
Wells, James K., Sharpsburg, Ky.; Kentucky School of Medicine, Louisville, 1894; died in Owingsville Aug. 14, aged 85, of cerebral hemorrhage.

Zweig, Hedwig ⊕ New York City; Schlesische-Friedrich-Wilhelms Universität Medizinische Fakultät, Breslau, Prussia, 1923; specialist certified by the American Board of Pediatrics; affiliated with Beth Israel Hospital, where she died recently, aged 57.

GOVERNMENT SERVICES

ARMY

New Interns at Tripler Army Hospital.—The picture below shows a group of newly arrived interns who have begun their year of training at the Tripler Army General Hospital in Honolulu, Hawaii. The hospital serves the Army, Navy, and Air Force in the Pacific Ocean area. This 13 story hospital, dedicated Sept. 10, 1948, is located on 366 acres of sloping mountainside commanding magnificent views of Pearl Harbor, Waikiki Beach, Diamond Head, and other famous land marks visible from the patients' wards. It has a bed capacity of 1,500 and nine operating rooms. The hospital is designed and constructed to resist lateral forces greater than those produced by the severest earthquakes on record. It was named in honor of Charles Stewart Tripler, a distinguished member of the Army Medical Corps, who among other things was medical director of the Army of the Potomac during the Civil War.



Personal.—Col. Carl Tempel, chief of medical service, Fitzsimons Army Hospital, Denver, and associate clinical professor of medicine, University of Colorado Medical School, on Sept. 15-16 addressed the staff and medical officers in military training at the Medical Field Service School, Fort Sam Houston, Texas, on diagnosis and treatment of tuberculosis. The speech was followed by a panel discussion and case presentations.

OFFICE OF DEFENSE MOBILIZATION

Hospital Personnel Shortage.—Disturbed by the shortage of health manpower, particularly with the critical situation in many hospitals, the Health Resources Advisory Committee of the Office of Defense Mobilization has appointed a subcommittee on hospital services to collect, analyze, and disseminate the available knowledge of this field. The subcommittee is now preparing a handbook on personnel utilization in hospitals, for use by all concerned. The handbook will be made up of series of pamphlets, each dealing with one specific problem, and the first pamphlet will be ready for distribution this fall. As a preliminary step, this committee and the subcommittee on hospital services have analyzed the problem and have made a number of suggestions for its solution. The analysis and suggestions, printed as a small brochure, show the reasons for the personnel shortage, particularly with regard to nurses, and what can be done by civilian hospital governing boards, medical and dental staffs, administrators, and nurse directors to help this situation. The committee then lists 13 steps that have proved successful in many hospitals and suggests that these steps be considered for appropriate action in all hospitals. The chairman of the subcommittee on hospital services is Mr. Oliver G. Pratt, executive director, Rhode Island Hospital, Providence, R. I.

PUBLIC HEALTH SERVICE

Appointments to Mental Health Council.—Surgeon General Scheele has announced that Dr. Maurice Levine, director, department of psychiatry, University of Cincinnati College of Medicine, Dr. Howard P. Rome, consultant in psychiatry, Mayo Clinic, Rochester, Minn., and Mrs. Ruth Hamblen Morrison, Portland, Maine, have been appointed to serve on the National Advisory Mental Health Council. Mrs. Morrison, wife of Dr. Alvin Alward Morrison, of Portland, has long been an active participant in such community organizations as the Red Cross, School Commission, Parent Teachers' Association, and Child and Family Welfare Board. She is past president of a number of Portland women's clubs. The council's 12 members are appointed for a period of four years. In addition, there are two ex officio members representing the Veterans Administration and the Armed Forces Medical Policy Council, and liaison representatives of the Surgeon Generals of the Air Force, the Army, and the Navy.

Award to Enzyme Chemist.—Surgeon General Scheele has announced that the American Chemical Society has elected Alton Meister, M.D., 31, of the National Cancer Institute, to receive the 1954 Paul-Lewis Laboratories award in enzyme chemistry. The Paul-Lewis award, consisting of a gold medal and $1,000, is given each year to the outstanding American enzyme chemist under the age of 40.

Dr. Meister won the award for discovering (1) the mechanisms by which normal tissues and cancer tissues cause the exchange of chemical groups between amino acids and the breakdown products of sugar and, (2) that vitamin B_6 is necessary for this exchange. Glutamine, an important compound present in almost all tissues, was found to be the key substance in many of these reactions. Also, in the course of these experiments, a number of new compounds called keto acids were isolated in crystalline form for the first time, and the way the body converts them to amino acids was determined. These fundamental studies may be helpful in explaining the growth processes of cancer cells.

Dr. Meister, senior surgeon in the Public Health Service commissioned corps, joined the National Cancer Institute in 1946. Since 1951 he has been head of the clinical biochemical research section of the laboratory of biochemistry. A native of New York City, he received his bachelor of science degree from Harvard University in 1942, and his degree of doctor of medicine from Cornell University in 1945.

Personal.— Dr. Maurice C. Pincoffs of Baltimore, professor of medicine in the University of Maryland School of Medicine since 1922, has been appointed to serve on the National Advisory Arthritis and Metabolic Diseases Council of the Public Health Service. Dr. Pincoffs, recent president of the American College of Physicians, has for many years been editor of the *Annals of Internal Medicine.* He is president of the Medical and Chirurgical Faculty of Maryland, regent of the American College of Physicians, and councilor and ex-president of the American Clinical and Climatological Association.

VETERANS ADMINISTRATION

Twenty Million Veterans in Civilian Life.—The statistical summary of its activities released by the Veterans Administration, Washington, D. C., Aug. 31, shows that as of that date there were in civilian life 20,219,000 veterans, a preliminary figure subject to revision. Of that number the average daily patient load in VA and non-VA hospitals was 105,543. The average daily member load in VA domiciliaries was 16,808. The total of new VA hospitals completed was then 54, 12 hospitals were still under construction, and there had been 50 additions to, and conversions of, hospitals.

FOREIGN LETTERS

BELGIUM

History of Medicine.—For a long time a movement has been under way to organize in Belgium courses in the history of medicine. The Belgian Committee for the History of Sciences has just emphasized again the importance of the history of medicine, not only for general culture but also for the education of the future physician. In addition, it recalls the place occupied by this discipline in higher education, both in Europe—especially in Switzerland, Italy, France, and Germany—and in America and even Asia; the creation throughout the world, Belgium included, of museums of medical history; the regular scientific activity of national associations, groups, and committees, which are becoming more numerous; the existence, in numerous countries, of specialized periodicals assuring publication of works by medical historians; the uninterrupted success of the International Congresses of the History of Medicine, started in Belgium in 1920, which have already brought together, on 13 occasions, specialists from most of the nations. The committee requested the authorities to include this course of instruction in the program of the doctorate, that is, in the sixth year of study.

Campaign for Good Milk.—A national campaign has been organized by the Belgian Red Cross with the support of the Ministry of Agriculture and leaders of the dairy industry to promote the consumption of good milk. The problem is to convince the public in Belgium, as in the Nordic and Anglo-Saxon countries, of the nutritive value of milk. Much progress is yet to be made in the field of general hygiene, although notable improvements have been brought about since 1947.

The campaign, which has been in operation throughout 1953, was designed to turn the attention of the population to the value of milk and milk products and thus to increase their consumption. A new attitude must be created in the population and at the same time new habits must be established in relation to the use of milk. Although the crusade is addressed primarily to the consumers, it is divided into two sections: (1) action addressed to the consumer (adults and young persons) and (2) action to be taken among producers and dairies.

Psychiatry in the Congo.—In a well-documented memoir just published by the Belgian Royal Colonial Institute, Baudoux approaches the vast problem of psychoses among the Negroes of the Congo from the medical and the administrative points of view. He believes that mental disease is rarer than among Europeans and that the frequency is greater among the "civilized" natives and males. He lists the following conditions as occurring in the Congo: (1) schizophrenia, of the classic type; (2) paranoia of the mystical type (religious influence) or megalomaniac (overcompensation); (3) anxiety psychoses, frequently in connection with natural perils (wild beasts) or supernatural dangers, with the author pointing out that leopards and sorcerers still exist in the Congo, while in Europe wolves and sorcerers have disappeared; (4) cyclothymia, which some African observers believe to be rare, including cases—always cited, but without much precision—in which natives let themselves die under the influence of a spell, which may be attributed to melancholia; (5) infectious psychoses due to trypanosomiasis, general paralysis, and occasionally meningovascular syphilis; (6) epilepsy, which is frequent and severe; (7) oligophrenia, seen in its various stages, and cretinism that may be due to goiter; (8) arteriosclerotic and senile dementia, rarely; (9) neuroses seen include hysteria and sexual impotency; (10) psychoses due to cannibalism and alcoholism, rare at present; and (11) attacks of psychomotor agitation of the Amok type (epilepsy and acute delirium). Psychoses associated with pellagra are not seen, although pellagra is common.

Cutaneous and Venereal Diseases in the Belgian Congo.—Lapiere presented to the Royal Academy of Medicine of Belgium the results of a broad inquiry into cutaneous and venereal diseases in the Belgian Congo. Among members of the white race, skin diseases are no more frequent than they are in temperate climates; the majority of the dermatoses noted among them are similar to those seen in our offices. Leprosy and yaws are almost nonexistent among the white colonists, owing to the hygiene of the white man. Precautions do not always protect white men from dermatoses caused by insect bites. Europeans, consequently, suffer frequently from filariasis.

The study of scabies led to the following conclusions: Scabies develops chronically among the natives. Each person becomes immunized gradually to the acarus. Among infected populations numerous persons have no clinical evidences of the disease but carry the infection.

The author reports the opinion of a number of physicians in the brush, according to whom leprosy (Hansen's disease) is, in certain districts, increasing rather than diminishing. Leprosy does not seem to be very contagious; the nursing and medical personnel of the great leprosariums rarely contract the disease. The proportion of persons with leprosy is lower among the riparian population, who bathe regularly. Like scabies and pyodermia, this condition is favored by a lack of hygiene and by promiscuity. Scabies provides a gateway for yaws. A single injection of 2,400,000 units of penicillin seems to be the treatment of choice.

The incidence of venereal diseases is increasing generally on an ascending curve, especially among the natives. The commonest is gonorrhea, which is twice or three times as frequent as syphilis. Cases of venereal lymphogranuloma (Nicolas-Favre) disease may be found; the soft chancre is much rarer. The epidemic index of syphilis among the white persons in the colony is higher than that which was reached at the time of the recent war and postwar epidemics.

The author suggests the following social measures for control of venereal diseases: 1. Declaration of all venereal disease to a competent medical service should be compulsory, under pain of prosecution. 2. In each case of recent infection, attempts should be made to reach the source. 3. Periodic examinations of prostitutes should be carried out. 4. Lectures should be given periodically to the Europeans and the "civilized" natives.

BRAZIL

Diagnosis of Schistosomiasis.—Prof. Samuel Pessoa, of the University of São Paulo, has published in the *Brasil Médico* the results of his researches on diagnosis of schistosomiasis Mansoni on the basis of laboratory tests. Professor Pessoa differs in his opinion from Gelfand, who holds that the Formol-gel test and the intracutaneous reaction have the same diagnostic value. In his opinion the intracutaneous reaction always proves superior because in his experience a positive reaction is obtained in 87.5% of children who have schistosomiasis and in 96.8% of adults. In 90 cases of schistosomiasis in which Professor Pessoa used the Formol-gel test, he obtained positive results in 23.3%. In cases in which only the intestinal symptoms were prominent, the reaction was positive in 14.2%, whereas in cases with hepatomegaly it was positive in 26.1%. In cases of enlargement of the liver as well as of the spleen, the incidence of positive reactions ranged from 28.5% in cases of compensated cirrhosis up to 46.1% in cases of decompensated cirrhosis.

Volvulus of Megacolon.—Before the Regional Medical Congress of the Associação Paulista de Medicina, held in Ribeirão Preto, Drs. Arrigo Raia and Oswaldo Mesa Campos reported that from 1936 to 1952 they had observed 47 patients with

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The items in these letters are contributed by regular correspondents in the various foreign countries.

acute intestinal obstruction among 148 with megacolon at the first surgical clinic of the medical school of the University of São Paulo. Nine of these patients had obstruction due to stercoroma and 38 due to volvulus of the sigmoid. Studying the medical literature, they found that this complication of megacolon is not common. In the Nordic literature there are many cases of volvulus of the sigmoid and the authors remember the possibility of megacolon being the cause of volvulus in those countries. The treatment of obstruction due to stercoroma consists of manual extirpation of the lesion with the patient under general anesthesia. Dr. Eurico Branco Ribeiro performs a laparotomy and removes the stercoroma.

Until a recent date there was no standard treatment for volvulus in cases of megacolon. The patients of the present series were operated on by various surgeons who used different techniques, such as simple distortion of the volvulus, distortion of the volvulus and suture of the perforation of the sigmoid, distortion and exteriorization of the sigmoid, distortion and manual extirpation of the stercoroma, distortion and colostomy (of the cecum and the sigmoid colon), distortion and colostomy of the transverse colon, distortion and sigmoidectomy with end-to-end anastomosis, distortion and pelvirectal sphincterectomy, and distortion and pulling through of the abdominoperineal resection of the rectosigmoid.

After studying the results obtained with these various surgical procedures, Drs. Arrigo Raia and Mesa Campos concluded that the best procedure in such cases is distortion of the volvulus and colostomy of the transverse colon; this procedure not only cures the acute complication but also includes the first stage of the final operation for the treatment of megacolon, which is done in three stages in their hands. The first stage consists of colostomy of the transverse colon, the second stage of abdominoperineal resection of the rectosigmoid, and the third stage of closure of the colostomy.

DENMARK

Vital Statistics.—The Danish public health authorities have now published a report by Dr. Karen Dreyer and Dr. Henry Hamtoft on the health of Denmark for 1951 and 1952. The adoption of the new international nomenclature for death certificates has, of course, interfered somewhat with a comparison of the most recent years with earlier years. But this is more than compensated for by the opportunity now presented for comparisons on an international scale. With a population of 4,300,000 in 1952, Denmark had 17.8 live births per 1,000 inhabitants and 9 deaths per 1,000 inhabitants that year. Between 1951 and 1952, there was a rise in the death rate up to the age of 15 years and after the age of 45 years, whereas it showed a fall between these two ages. Certain diseases show a remarkable change in incidence from year to year. Poliomyelitis is a case in point. In 1951 there were only 383 such cases, and only 20 of them were paralytic cases. In 1952 the corresponding figures were 5,676 and 2,450 respectively. In the same two years there was a remarkable change, this time in a more favorable direction, in the incidence of acquired syphilis, with 441 notifications of it in 1951 and only 217 in 1952. On the other hand, the number of notifications of gonorrhea was much the same in the two years, with 7,093 in 1951 and 7,017 in 1952. The number of acute infections of the lungs showed a considerable rise in the same period, and the number of notifications of croupous pneumonia rose from 5,342 in 1951 to 6,100 in 1952.

In the notification of deaths, there are fewer sudden changes from year to year, but even here there are some figures worth attention; for example, the number of deaths from pulmonary tuberculosis fell from 506 in 1951 to 428 in 1952. The number of deaths from other forms of tuberculosis showed a corresponding fall, from 67 to 49. As was to be expected, during the same period there was a rise, but only a moderate rise, in the number of deaths from malignant disease and heart disease, the former from 7,615 in 1951 to 7,772 in 1952. There was actually a fall from 1,664 to 1,116 in the number of deaths from pneumonia. The same report gives useful information on the activities of maternity hospitals and allied institutions for childbearing. At the present time, the mother who is not confined at home spends, on the average, 10 days in the hospital in which she is confined.

LONDON

Drummond Research Fellowship.—In August, 1952, Sir Jack Drummond and his family were brutally murdered in France by an as yet unidentified assailant. To commemorate his memory and his outstanding work in the fields of biochemistry and nutrition, his many friends, colleagues, and former students have decided to institute a memorial to him in the form of a Drummond Research Fellowship in Nutrition, to be tenable in any university or appropriate research institution. A committee representing medicine (Lord Horder), biochemistry (Professors A. C. Chibnall, G. F. Marriam, and F. G. Young), the Medical Research Council (Sir Harold Himsworth), and the Ministry of Food, has launched an appeal for £25,000 for the endowment of such a fellowship. The chairman of the committee is Lord Woolton, who was Minister of Food during World War II when Drummond, as scientific adviser to the ministry, made such a brilliant contribution to the nutritional welfare of the nation. In a letter launching the appeal, Lord Woolton "recalls the great debt that we in Great Britain owe to him for his work as scientific adviser to the Ministry of Food during the war." Indeed, it is probably not going too far to say that it was Drummond's unique combination of outstanding knowledge of nutrition, persuasive tongue, and "crusading zeal" (to use a phrase of Lord Woolton's) that saved Great Britain from starvation. He was almost as well known in the United States, and there was nothing he enjoyed more than a trip to renew his many friendships in the States. Friends who want to contribute to this memorial may send subscriptions to the Drummond Memorial Fund, Westminster Bank Ltd., 154 Harley St., London, W.1.

The Dentists and the National Health Service.—The story of the relationships between the Ministry of Health and the dental profession is even more tragic than that of the relationships between the ministry and the medical profession. In his presidential address to the British Dental Association in July, the president described the present scheme as a failure. He went on, "This failure is in large part due to the ignoring by the Minister of Health of advice from men of ability and high-mindedness, whose concern has always been the welfare of the community and the dental profession, which are wholly interdependent. It would have been possible in 1948 to establish a dental service that would have provided a sound foundation to build on. With goodwill on both sides—and that such things as 'sides' exist in this connexion is the greatest tragedy—it is even now, after five wasted years, not too late to formulate a scheme that will add to the prestige of our profession and be of lasting benefit to the whole population . . . Of course there were a few dental practitioners who were not conscientious and who did not play the game. That happens in every profession. It happens even in the business of politics. In my opinion, one politician alone has done far more harm to the dental profession and the community than all our sinners added together."

Wellcome Centenary Exhibition.—The name Wellcome is such a household name in Britain that it is difficult to realize that the man who made it so familiar, Sir Henry Wellcome, was born in Wisconsin, was a protégé of the father of the Mayo brothers, and received his pharmaceutical training in the United States. The centenary of his birth (Aug. 21, 1953) is being commemorated by a special exhibition at the Wellcome Research Foundation, which was opened by Dr. W. G. Wyckoff, scientific attaché to the American Embassy in the unavoidable absence of the American ambassador. Sir Henry Dale, the chairman of the Wellcome Trust, also took part in the ceremony. The exhibition shows facets and mementoes of all aspects of Wellcome's varied career and interests, from the Sioux rising of 1862 to some of the treasures from his unique collection of ancient medical books and antiques. Also shown are letters from Stanley, the discoverer of David Livingston, and a silver first-aid box supplied to King Edward VII for his motor-car. Full attention is also given to the development of the thriving pharmaceutical business that now straddles the universe, and of the research activities that he inspired, particularly in the Sudan.

Dangers of Marking-Ink.—An interesting series of six cases of poisoning from aniline dye in newborn babies, caused by marking-ink, are reported by J. D. Pickup and Jessie Eeles in *Lancet* (**2**:118 [July 18] 1953). In none of the cases was cyanosis severe enough to require administration of methylene blue, though oxygen was given as a supportive measure in three cases. Three months later, all six babies were well, and none of them had had bronchopneumonia. In all six cases, freshly stamped napkins had been used before they had been laundered. According to the makers, the marking-ink contained aniline, toluidine, copper chloride, sodium chlorate, sodium bisulfate, and hydrochloric acid. The authors comment as follows on the incident: "This incident shows once more the importance of boiling before use all clothing or bedding newly marked with aniline ink. None of the nurses concerned were aware of the potential dangers of their actions. The makers' warning on the bottle had become obliterated by ink running down the sides of the bottle. Everyone who has charge of infants should be warned of the dangers of absorption of aniline from marking-ink. It is advisable that hospital laundry units display a notice stating the importance of fixing the marking-ink by thorough boiling of clothing or bedding."

Blood Transfusion Accidents.—In a long statement on blood transfusion accidents (*Brit. Med. J.* **2**:390 [Aug. 15] 1953), the Consulting Pathologists Group Committee deplores the fact that "a large newspaper-reading public should be introduced to the subject of blood transfusion by headlines that high-light almost every fatality." Although it is admitted that the true incidence of deaths resulting from accidents is not known, the dogmatic statement is made that "the incidence of such fatal cases is grossly exaggerated and needless alarm thus spread." One "large hospital in the London area" is quoted as having had only "in the order of one death in a period of six years, in which 13,000 bottles were transfused."

The statement then deals with "the element of risk" and how to overcome it. "Every step must be taken to minimize the chance of causing death in the attempt to save life. Thus, since the risk has been stated as similar to that of uncomplicated appendectomy, similar consideration should be given to, and plans made for, a blood transfusion as would be given to the question of opening an abdomen for appendicectomy." The fact that the demand for blood always tends to exceed the supply is taken to suggest that "there may be a certain measure of over-prescribing, which adds to the risks undergone by some patients and acts to the detriment of others who are really ill and require a life-saving transfusion." It is considered unjustifiable to place any patient at risk for a pint of blood; such patients would do well with a plasma substitute. "In healthy young women with slight loss of blood from abortion, miscarriage, or at term the natural recuperative powers must neither be forgotten nor superseded."

The blood bank at each hospital should be under the care of the hospital pathologist whose responsibility it is to ensure that "(1) the grouping of the patient and the matching of blood are done only by experienced technicians, resident pathologists, and/or housemen who have been and are thoroughly experienced in the methods, and (2) satisfactory arrangements have been made for the care of the bank and grouping and matching at night and at weekends." There are two essentials for maximum safety in grouping and matching—adequate time in which to do all the tests and the full relevant history of the patient. The procedure for the grouping and matching of blood is now so complicated that up to four hours may be required to allow full time for the interaction of cells and serums in ABO and Rhesus-grouping and in compatibility testing. "Thus two hours is the time of incubation (in tubes to avoid evaporation of the small quantities used); only by this means can A-group readings, Rh-grouping (anti-D), and the possible presence of immune iso-antibodies be clearly determined." Equally necessary is considered to be "the matching of recipient's serum with donor cells suspended in saline at room temperature and, in parallel, suspended in 20% bovine albumin at 37° C. for a minimum of two hours and read microscopically." Also essential is the making and staining of blood film when a sample for matching is taken from the bottle: "this permits detection of the rare instance of massive contamination with bacteria that flourish at 4° C. without causing visible changes in the blood." "These methods," it is stated, "are probably not yet fully adopted by all pathologists, but they ought to be, for only by using them can it be said that every possible precaution against mis-grouping and mis-matching has been taken." In emergency, with suitable proved high titer grouping serums, similar procedures can be used and the times cut to 15 minutes for each test, but "it must be clearly understood that while there is fair accuracy with the shorter method, there still is risk of error."

In giving a transfusion, the matched blood should be handled as little as possible and used with the minimum of delay. The method in use in hospitals in the northeast metropolitan hospital region is recommended. Each bottle of matched blood has a colored (according to the group) tie-on luggage label that bears the donor's bottle number and/or name, recipient's full name and ward, the date of matching, and the signatures of the persons who matched and checked the blood. A centrally situated refrigerator or cold room (controlled at 4 to 6 C) is provided for such matched blood because ward refrigerators are too unreliable and the blood may be frozen or forgotten. The central, matched blood refrigerator should have a record of the blood it contains in a book or on a sheet, giving as a one line entry the patient's (recipient's) name and ward and the donor's name and/or bottle number. Each bottle removed should be signed for and the time and date of removal entered. "Blood should only be removed immediately before use, and only by a member of the medical staff, preferably by the houseman or anesthetist who is to set up the transfusion. Neither the removal of blood from the refrigerator nor the administration (including the follow-on of bottles) should be allowed to be a duty of the nursing staff." The details on the luggage label tied to the bottle should be checked with the bottle number and also with the donor's name and/or bottle number and the recipient's name and ward, (*a*) in the refrigerator-register entry at the time of removal and (*b*) in the ward or theater, with a nurse or other person as witness before the blood is given. The physician should ensure that the person named on the luggage label is the same as the person about to receive the blood.

In grave emergency, when compatibility tests cannot be done, unmatched blood reserved in the central refrigerator for emergency use in the theater, in the maternity wards, or by the maternity flying squad should be used—group O Rhesus-negative blood for women and men who have had a transfusion and group O Rhesus-positive blood for men who have not had a transfusion. Even in such cases, however, it is essential to obtain a sample of the patient's blood before transfusion, so that the patient's own group can be determined later and the patient's serum used for further matching.

NORWAY

Tests for Syphilis in Pregnant Women.—In January, 1948, the head of the Norwegian Public Health Service addressed a circular letter to all physicians, hospitals, and midwives in Norway ordering that samples of blood be taken from every pregnant woman with a view to a serologic examination for syphilis. This step was taken because of the new wave of syphilis connected with the occupation of Norway by the Germans from 1940 to 1945. It will be recalled that during World War I there was a considerable rise in the frequency of syphilis in Norway. Between the two world wars there was a marked fall in the syphilis rate, and the disease became so rare that it was little more than a medical curiosity.

At the serodiagnostic department of the State Institute for National Health, which is under the charge of Dr. Otto Hartmann, the serologic testing of the serum of pregnant women has been undertaken on so great a scale that between May, 1948, and April, 1953, as many as 176,702 pregnant women were tested for syphilis—a number corresponding to more than half the number of confinements recorded in the whole of Norway in the same period. Reporting on this work, Dr.

Else Vogt and Dr. Rønnaug Grelland point out that all the samples submitted for examination were tested by the three following reactions: (1) the Bordet-Wassermann reaction (since January, 1950, with standardized cardiolipin-antigen), (2) the Meinicke Klärung reaction, and (3) the Wadsworth and Brown reaction. The tables reproduced in *Tidsskrift for Den Norske Lägeforening* for Aug. 15, 1953, give the number of seropositive women year by year and the percentage of positive cases. Throughout the five year period under review, 1,371 of the women thus tested gave positive reactions, a mean rate of 0.78% for the whole period. The highest syphilis rate was 1.23% in the first year. During the remaining four years, there was no statistically significant fall in the syphilis rate, which in the last year was 0.78%. A classification of the seropositive women in 10 age groups of four years each, showed that the syphilis rate remained remarkably constant between the ages of 18 and 45. This constancy does not coincide with the well-known observation that the syphilis rate usually rises with age. That it did not do so in the present instance was perhaps because, during the German occupation of Norway, the younger women were particularly prone to contracting syphilis.

Anticoagulant Treatments Compared.—At the medical department (chief, Dr. O. Römcke) of the Drammen City Hospital, considerable advances have been made in the treatment of thromboses and emboli by anticoagulants. To begin with bishydroxycoumarin (Dicumarol) treatment was controlled by Quick's method, and many difficulties were encountered, with up to about 30% mishaps (intoxications) when treatment was given under ambulatory or outpatient conditions. Since the spring of 1951, Owren's method with prothrombin control (proconvertin-prothrombin control) has been adopted. At the same time, the dosage and supervision of the patients were confined to one physician with the result that the mishap rate was considerably reduced. Yet, among 47 outpatients with a total treatment time of about 18 years, there were nine instances of intoxication of which one was alarming. Since August, 1952, bishydroxycoumarin has been replaced by PID (2-phenyl-1,3-indanedione).

Reporting on two series of cases in *Farmakoterapi* (no. 2, 1953) Dr. A. J. Hellum describes one series treated with bishydroxycoumarin (Dicumarol) and another with PID and argues that the latter represents a definite advance over the former drug. The bishydroxycoumarin series consisted of 33 persons in the hospital cases; 22 had infarcts of the heart, 5 had angina pectoris, 5 had phlebitis and thrombosis, and 1 had an embolism. The total treatment time was 960 days. In the group treated with PID there were 29 patients; 14 had infarcts of the heart, 3 had angina pectoris, 9 had phlebitis and thrombosis, and 3 had an embolism. The total treatment time was 714 days. The initial dose of bishydroxycoumarin was usually 200 mg. on two successive days, and thereafter the dosage was established for each patient. The initial dose of PID was usually 150 mg. on two successive days, and thereafter the dosage for each patient was determined. PID was found to act more promptly, and its effects subsided sooner than those of bishydroxycoumarin. Prothrombin levels within a toxic range were of comparatively short duration. In other words, the number of days during which prothrombin levels were within the toxic range were comparatively few. For these reasons the author concludes that PID possesses several advantages over bishydroxycoumarin, particularly with regard to the more rapid action, more prompt response to corrections of dosage, and the comparatively level prothrombin figures achieved with PID.

Artificial Insemination.—The lay as well as the medical press in Norway, has, of late, had much to say about artificial insemination. Professor Lövset, a gynecologist, is an active advocate of artificial insemination, including heterologous insemination with an unknown man as donor. Some of his arguments are based on the success with which artificial insemination has been carried out in mammals other than man. Prof. Alfred Sundal, a pediatrician, is openly hostile to heterologous insemination, and one of his arguments is that we have yet no guarantee that the technique of this process entails no risk of damage to the ovum or sperm. He points out that, even under normal conditions of conception, some 7% of all the children born to their parents present more or less distressing anomalies that are a source of worry to the parents. Professor Sundal believes that such worry may be increased for the parents who have assumed the responsibility of heterologous insemination.

In January, 1950, a committee was appointed to investigate the feasibility of legislation with reference to artificial insemination. In March, 1953, this committee issued a report in which three of its five members recommended legislative measures. The other two members were against such legislation. The three in favor of legislation have sketched the outline of a law referable to heterologous insemination for married women. According to this outline, such insemination can be undertaken only by physicians especially qualified for it. The husband must give his written consent, and both he and his wife must have reached the age of 25. There must be no risk of the child in question or its progeny suffering from severe mental or bodily disease. Both parents must be in a position to rear the child successfully, and the donor must consent to being kept in ignorance about the recipients of his semen. Similarly, husband and wife must not know who the donor is, and he must not be blood relation of the wife. The progeny of such insemination must have the same legal rights possessed by other children born in wedlock, and the donor is to be under no obligation to either the child or its mother. The physician in the case must be bound by professional secrecy, though he may be called on to give evidence from a legal point of view provided that the identity of the persons concerned is kept secret.

PARIS

International Congress on Arterial Thrombosis.—The International Congress on Arterial Thrombosis was held at Royat last June 6-8 with Professor Laubry serving as honorary president. It was presided over by Professor Leriche, the vice-presidents being Professors Donzelot and Giraud. A large number of French and foreign delegates attended.

Anticoagulants in Coronary Thrombosis.—R. Froment, A. Gonin, P. Cahen, Melle. Ithier, and M. F. Gauthier reported on use of anticoagulants in coronary thrombosis. They said that many physicians are not aware of the undeniable decrease in the mortality in myocardial infarction treated with anticoagulants. The combined results of 11 different statistical reports of a total of 1,361 cases of infarction treated without anticoagulants gave a mortality of 28.7%; in a total of 1,302 cases in which anticoagulants were used the mortality was 13.3%. Conversely, they stressed a drawback to this treatment, an incidence of 20% of hemorrhages in a total of 1,500 patients. The personal experience of the authors leads them to recommend bishydroxycoumarin (Dicumarol), ethyl biscoumacetate (Tromexan ethyl acetate) combined with phenylindanedione. The authors compared a group of private patients and a group of ward patients.

The ward patients consisted of 120 patients with coronary thrombosis. In the 78 patients with the full pattern of myocardial infarction, 14 deaths were noted. The authors stressed that the mortality rate (18%) was not much decreased, but that on the other hand no coronary thromboembolic accident was noted in life and autopsy revealed no important pulmonary thromboses and only one intraventricular thrombosis. No deaths occurred in 36 cases of clinical coronary thrombosis associated with myocardial ischemia. There were five instances of hematuria without overt complications and four of hematuria that necessitated discontinuation of the treatment. To control the use of anticoagulants the authors used determination of the prothrombin time (Quick) alone in the first stage and combined with the heparin test in vitro (according to T. P. Soulier's method) in the second stage. The latter test permits determination of the dose that induces hypoprothrombinemia and maintains the desired hypocoagulability.

There were typical disparities between the prothrombin time and the heparin tolerance test, especially during the first days of treatment.

In the series of 69 cases in patients treated in private practice with bishydroxycoumarin or its derivatives for six months to four years, there were four deaths among 37 patients with typical coronary thrombosis, 5 cases of recurrent coronary disease in spite of treatment for more than two years, and 1 case of cerebral arterial thrombosis. In the 32 cases of angina pectoris without thrombosis two deaths occurred.

Artificial Hibernation and Acute Coronary Thrombosis.—Professors C. Lian, J. Cahn, J. M. Mellon and Miss M. Dubrasquet reported experimental investigations and clinical prospects of use of artificial hibernation in coronary thrombosis. They studied the effect of hibernation on the organism according to Laborit and Huguenard's technique (see The Journal, May 16, 1953, page 262). They were able to note the fall of temperature, reduction of basal metabolism, reduction of the requirements of oxygen, reduction of the heart rate, slight hypotension, and a fall of intracardiac pressure proportional to the body temperature. All these modifications are reversible on warming. The authors stressed that coronary ligature with the patient under ordinary anesthesia provokes death on the operation table or immediately postoperatively in most cases. On the contrary, a coronary ligature performed with the patient under hibernation does not provoke immediate death, except in cases of cardiac wounds, and the patient may survive for many months. According to the authors, these experiments show that artificial hibernation ought to be used with other methods for the treatment of myocardial infarction, as it has an antishock, analgesic, and hypnotic action. It diminishes cardiac excitability and can stop ventricular paroxysmal tachycardia or even prevent it. Moreover, with hibernation the circulatory needs of the organism are restricted, which attenuates the consequences of poor coronary circulation. In addition the "lytic cocktail" used for hibernation has anticoagulant action.

Arterial Thrombosis of the Extremities.—J. Terrasse and R. Cuvelier, in their report on treatment of thrombotic conditions with warm mineral waters, stressed that crenotherapy is really only effective in senile atheromatous thromboarteritis.

Professors M. Mouquin, H. Reboul, P. Laubry, and L. Vercoz reported on serial arteriophlebography and aortography in thromboarteritis of the extremities. The authors reviewed the history of this method, which was begun with intra-arterial injection of the contrast medium by Berberich and S. Hirsch in 1923, the discovery, in 1927 by Egas Nomiz of arterial encephalography, and by the distinction of arterial, tissular, and venous phases. In 1929 R. Dos Santos, A. Lima, and P. Caldas discovered arteriography of limbs and abdominal aorta. The technique was perfected over the next 22 years by Professors Ch. Laubry and Louis Bazy and later in the service of Professor Mouquin and P. Thoyer Rozat at the La Pitié hospital, particularly by use as contrast mediums of the most opaque and most soluble organic iodized compounds. There is a close relation between the rapidity of opacification and tissular lesions. With this new method it becomes possible to study the rapidity of opacification of each arterial segment in any tissular plaque by arteriophlebography.

Oxygenation of Hemoglobin.—Prof. J. André Thomas' original work on the artificial heart and lung has been previously reported on in The Journal. While he was trying to improve this apparatus, it appeared to Thomas that the oxygenation of hemoglobin is due not only to a purely physical phenomenon of diffusion but also to chemical factors. After a series of experiments the author succeeded in extracting this chemical substance, which he named "globine-oxydase." He found it in the aortic blood of a cow, but it was not present in the vena cava nor in the systemic circulation. He extracted this substance from the animal's lung. The active principle is probably an enzyme and its composition resembles that of the already known succinodehydrogenase. The extract is inactivated by potassium cyanide and its activity is not due to the presence of SH radicals; the presence of copper is revealed by the spectrogram. In vitro, when added to the jugular blood of the horse, this enzyme increases oxygen saturation. According to the author, the enzyme acts as catalyser in the fixation of oxygen on hemoglobin by modifying the structure of hemoglobin. It degenerates progressively as it is used, and in its absence hemoglobin is incapable of fixing oxygen. Investigations made on the dog showed that, when injected in a dose of 5 cc., the undiluted extract provoked no shock, no intoxication, and no changes either in the arterial pressure, respiration or temperature; the electrocardiogram remained normal. When the undiluted extract is injected quickly into a dog rendered progressively anoxemic (80%), the oxymetric curve rises up to 90% but the animal dies within a few minutes. Conversely, if 2 cc. of extract, diluted in Ringer's solution are injected in 2 minutes, oxymetric curves rise from 85 to 96% within 2 minutes; they then fall in 13 minutes to 82% (inactivation of enzyme) and with repetition of the injection rise again to 97%. If the diluted extract is injected by drip, curves rise from 85 to 97%. The oxygenation effect lasts for 32 to 50 minutes but subsides after discontinuation of the drip. This experiment completely disproves the previous conception of purely physical fixation of oxygen. Professor Thomas and Mrs. Alfsen Blanc stated in their report on Jan. 26, 1953, to the Academy of Sciences, "It is logical to consider for the future a medical and surgical therapy consisting in the simple injection of such an extract."

TURKEY

Subacute Suppurative Inguinal Lymphomatosis.—In *Klinik* (vol. 10, no. 5), Prof. Halil Gürün, chief of the Kabul Afghanistan Medical School department of dermatology and venereal diseases, reports that, since syphilitic and gonorrheal diseases abound in that country, soft chancres and lymphogranuloma undoubtedly exist. The opportunity to diagnose a case of suppurative inguinal lymphomatosis, however, occurred only at the end of three years. According to the patient, a 32-year-old peasant, the disease began three and a half years earlier, with pustules on the genitals, swelling of the groins, and swelling of the nodules, which developed into open sores. Within two years the condition spread to the anus. Home remedies had been tried. Examination of the patient revealed swollen hard lymph nodes varying from the size of almonds to the size of eggs, and periadenitis in the Scarpa's triangle. Some of the nodes had fistulas, and some had scars. There were recently suppurated nodules, and there was lymphangitis in the surrounding area, with no pain on palpitation or pressure. The skin of the surrounding area was dark dermoepidermitis, and there were vesicular erythematous plaques in the perianal area. The narrowed rectum revealed painful fissures and infiltrated rough surroundings. The patient refused examination by rectoscope.

The venereal disease routine laboratory, Kahn, Meinike, and Wassermann tests were negative. The Frei test gave a highly positive reaction. Blood examination revealed 3,800,00 eryrocytes per cubic millimeter, 8,400 leukocytes, 78% hemoglobin, and 4% eosinophils. The sedimentation rate was 9 mm. after one hour and 13 mm. after two hours. The histological diagnosis made by Professor Broussy of the Kabul Medical School was venereal lymphogranuloma (Nicolas-Favre-Durand disease) of the inguinofemoral nodes.

The patient was given one 250 mg. capsule of chlortetracycline (aureomycin) six times daily for one week, one capsul four times daily during the second week, and one capsul three times daily during the third and fourth weeks. The man was given a total of 45 gm. of chlortetracycline. The inguinofemoral nodes and the perianal manifestations completely subsided, and there was considerable amelioration at the anus and the narrowed rectum. Prior to the diagnosis, the patient was given 8 million units of penicillin and sulfonamides for 10 days, without any beneficial effects. As there were no more antibiotics available, the patient was discharged. Questioning revealed that other such cases exist in his village, which, because of the absence of roads, is difficult to reach.

MEDICAL MOTION PICTURES

Surgical Treatment for Congenital Pulmonary Valvular Stenosis: 16 mm., color, sound, showing time 19 minutes. Prepared by George H. Humphreys, M.D., Columbia-Presbyterian Medical Center, New York. Produced in 1951 by, and procurable on rental or purchase from, Sturgis-Grant Productions, Inc., 314 East 46th Street, New York 17.

After a brief description, with diagrams, of the anatomy and physiology of the condition, a 7-year-old child is shown who exhibits typical signs and symptoms of pulmonary stenosis. Heart sounds are recorded on the sound track, and the roentgenogram and electrocardiogram are shown, as well as cardiac catheterization tracings. The main steps in the procedure of pulmonary valvulotomy are demonstrated, with emphasis on the special instruments employed in the operation. The patient's improvement is shown, and comparative postoperative findings are discussed. The film illustrates a highly specialized surgical procedure and it will be of value to vascular surgeons. It will also be of interest to cardiologists, pediatricians, and general surgeons as a demonstration of what can be done with cases of this type. The photography is excellent.

Lease on Life: 16 mm., black and white, sound, showing time 23 minutes. Produced in 1945 by Emerson Yorke Studios, New York, in cooperation with the U. S. Public Health Service, Federal Security Agency, Washington, D. C. Procurable on loan from National Tuberculosis Association, 1790 Broadway, New York 19, or state or local tuberculosis associations.

This film opens with the family doctor of the horse and buggy era coming back as a ghost-like apparition to look in on the Jones family. From time to time, his observations of the family's progress in the face of advances in medical science are made known to the viewers. The Jones family consists of four generations, each of whom has certain health interests. The positive aspects of health protection and preventive medicine are illustrated by the well-child clinic attended by the infant, the school health examination, the industrial health program for the wage earner, and clinic attendance by the grandmother. Generally the preventive medicine aspects of the film and the advice on health protection are technically correct. Because all health activities are centered in the clinic, the film will be most applicable to the situation in metropolitan areas. Only passing mention is made of the family physician, and he is ignored so completely that the implication is that the family physician does not figure in preventive medicine, nor in hospital care where a staff physician cares for the victim of a heart attack. This would be an excellent film to use for presenting to adult groups the fundamental principles of preventive medicine, if it did not so completely ignore the family physician as an important factor in the health services of a community. Technically, the film is well done.

BUREAU OF LEGAL MEDICINE AND LEGISLATION

MEDICOLEGAL ABSTRACTS

Public Health: Compulsory Confinement of Infected Persons.—The petitioner was confined in the Southwest Florida State Sanitarium at Tampa pursuant to a commitment issued by the county judge of Dade County, under the provisions of a 1949 law relating to the compulsory isolation and hospitalization of tuberculous persons. To test the validity of this detention, the petitioner filed habeas corpus proceedings in the Supreme Court of Florida, Division B.

The petitioner claimed that the statute in question was unconstitutional and that his confinement thereunder was unlawful. Recent history of public health matters, said the Supreme Court, shows that tuberculosis is recognized as one of the most dreadful diseases and one of the greatest killers. The State spent millions of dollars prior to 1949 in an attempt to minimize as far as possible the spread of this terrible disease. It established a few hospitals and clinics and carried on a program of detection, education, and advice. It recognized that those afflicted with this disease were a menace to society. They walked the streets; went to public places such as theaters, hotels, and restaurants; and rode in common carriers. In their homes and other places they came in close contact with relatives and friends and the general public. They not only suffered themselves but left disease, misery, sorrow, and death in their wake. Prior to 1949 the Legislature had not enacted any law for compulsory confinement or quarantine with reference to persons afflicted with this disease. The real reason, the court continued, why no such law had been passed prior to that time was because there were not sufficient hospitals or sanitariums provided by the state to properly take care of these people and it would have been useless to enact a law for compulsory confinement or quarantine without the state providing adequate facilities to carry into effect such a law. Although the need had been recognized for many years, the Legislature was confronted with the conflicting demands to provide adequate facilities in the promotion of public health and the general welfare on the one hand and the clamor not to increase but to reduce taxes on the other hand. In 1949, it was recognized that the Legislature would probably levy sufficient taxes and appropriate sufficient money to erect suitable sanitariums in which persons with tuberculosis could be confined and treated. The law under question was, therefore, enacted by the Legislature.

In a prior case decided by the Florida Supreme Court, the appellant was confined on orders of the health officer because she had an infectious or contagious disease. The court in a unanimous opinion said "generally speaking, rules and regulations necessary to protect the public health are legislative questions, and appropriate methods intended and calculated to accomplish these ends will not be disturbed by the courts. All reasonable presumptions should be indulged in favor of the validity of the action of the legislature and the duly constituted health authorities. But the constitutional guarantees of personal liberty and private property cannot be unreasonably and arbitrarily invaded. The courts have the right to inquire into any alleged unconstitutional exercise or abuse of the police powers of the legislature, or of the health authorities in the enactment of statutes or regulations, or the abuse or misuse by the Boards of Health or their officers and agents of such authority as may be lawfully vested in them by such statutes or regulations. However, the preservation of the public health is one of the prime duties resting upon the sovereign power of the State. The health of the people has long been recognized as one of the greatest social and economic blessings. The enactment and enforcement of necessary and appropriate health laws and regulations is a legitimate exercise of the police power which is inherent in the State and which it cannot surrender. The Federal government also possesses similar powers with respect to subjects within its jurisdiction. The constitutional guarantees of life, liberty and property, of which a person cannot be deprived without due process of law, do not limit the exercise of the police power of the State to preserve the public health so long as that power is reasonably and fairly exercised and not abused. The legislative authority in this legitimate field of the police power, like as in other fields, is fenced about by constitutional limitations, and cannot properly be exercised beyond such reasonable interferences with the liberty of action of individuals as are really necessary to preserve and protect the public health. . . ."

The petitioner also made a special attack on the law on the ground that it discriminated against all persons other than those of a certain religious faith and belief. Religious freedom, said the Supreme Court, cannot be used as a cloak for any person with a contagious or infectious disease to spread such disease because of his religion. Accordingly the petitioner's petition for a writ of habeas corpus was denied, and the commitment pursuant to court order was sustained. *Moore v. Draper, 57 So. (2d) 648 (Florida, 1952).*

MEDICAL LITERATURE ABSTRACTS

UNITED STATES

A.M.A Arch. Ophthalmology, Chicago

50:129-274 (Aug.) 1953

Use of Specific Streptococcus Vaccine in Nongranulomatous Uveitis. A. C. Woods.—p. 129.

Superficial Punctate Keratitis: Isolation of Virus. A. E. Braley and R. C. Alexander.—p. 147.

Scleredema Adultorum: *Ocular Manifestations.* G. M. Breinin.—p. 155.

Hemagglutination Test of Middlebrook and Dubos in Ocular Tuberculosis. M. Fine and M. Flocks.—p. 163.

Changes in Specific Gravity of Growing Crystalline Lens: Technique for Investigation of Pathogenesis of Cataract. W. M. Hart and R. H. Peckham.—p. 174.

Central and Peripheral Fusion. J. E. Winkelman.—p. 179.

Intravenous Pentobarbital (Nembutal) Sedation in Eye Surgery. R. J. Schillinger.—p. 184.

Aspiration of Lacrimal Sac in Acute Dacryocystitis. W. L. Hughes. —p. 188.

Transient Glaucoma Associated with Meningeal Hydrops. M. Posner. —p. 189.

Pharmacology and Toxicology. J. E. Harris.—p. 192.

American Heart Journal, St. Louis

46:161-320 (Aug.) 1953

Some Limitations of Vectorcardiography. D. Biber and M. L. Schwartz. —p. 161.

Effect of Surface and Recording Technique on Direct Ballistocardiogram. R. P. Walker, T. J. Reeves, K. Willis and others.—p. 166.

Ballistrocardiogram in Peripheral Vascular Disease. A. M. Master, E. Donoso, L. Pordy and K. Chesky.—p. 180.

*Effects of Oxygen Breathing on Pulmonary Circulation in Mitral Stenosis. M. McGregor, T. H. Bothwell, M. M. Zion and B. A. Bradlow.—p. 187.

Reference Potential for Unipolar Electrocardiographic Measurements on Models. E. Frank and C. F. Kay.—p. 195.

Electrocardiographic Manifestations of Air in Coronary Arteries of Dying and Resuscitated Hearts. T. N. James, T. Geoghegan and C. R. Lam.—p. 215.

Studies on QRS-T Angle. R. A. Helm and N. O. Fowler Jr.—p. 229.

Problem of Calibration in Heart Sound Recording. F. L. Dunn and W. E. Rahm Jr.—p. 237.

*Beriberi Heart Disease. A. B. Benchimol and P. Schlesinger.—p. 245.

Normal Pressure in Right Heart and Pulmonary Artery. N. O. Fowler, R. N. Westcott and R. C. Scott.—p. 264.

Effect of Posture and Adrenergic Blockade with Dibenzyline on Renal Hemodynamics, and Excretion of Water and Electrolytes in Patients with Hypertension With and Without Renal Damage. R. V. Ford, J. H. Moyer and C. L. Spurr.—p. 268.

Studies with Intravenous Gitalin: II. Ballistocardiographic and Electrokymographic Observations. O. M. Haring and A. A. Luisada.—p. 276.

Study of Diuretic Action of Pamabrom (2-Amino-2-Methyl-Propanol-1-8-Bromotheophylline) in Cardiac Failure. J. E. Doherty and O. W. Beard. —p. 288.

Vascular Changes in Hydronephrosis. R. Altschul and S. Fedor.—p. 291.

Persistent Truncus Arteriosus: Report of Two Cases with Right Aortic Arch. R. D. Rowe and P. Vlad.—p. 296.

Effect of Oxygen on Pulmonary Circulation in Mitral Stenosis. —McGregor and associates point out that, whereas until recently studies on the circulatory dynamics of the pulmonary circuit have been confined to experimental animals and to normal human subjects, now investigation of cases of mitral stenosis has demonstrated that a sharp rise in pulmonary vascular resistance takes place in this condition as the pulmonary capillary pressure rises and that this rise is at least partially reversible following mitral valvotomy. Lewis and his co-workers regarded the phenomenon teleologically as a means of protecting the pulmonary capillary bed from unduly high pressures. Westcott and his colleagues suggested that it is the result of anoxia secondary to pulmonary congestion and edema. The latter suggestion is supported by the demonstration that anoxia causes a rise in pulmonary artery pressure in both anesthetized cats and unanesthetized normal human subjects. Thirteen patients with mitral valve disease were selected in order to study the effects of the breathing of high concentrations of oxygen on the pulmonary hypertension found in mitral stenosis. Administration of pure oxygen to these 13 subjects with raised pulmonary artery pressure and raised pulmonary resistance produced a fall in pulmonary pressure in all. In 10 there was an additional significant fall in total pulmonary resistance. There was some correlation between the initial pulmonary pressure and the degree of fall in vascular resistance. There was no correlation between initial arterial anoxia and the fall in pulmonary resistance following administration of oxygen. In spite of this it is felt that local anoxia caused by pulmonary congestion and edema may at least play some part in the development of pulmonary hypertension in mitral stenosis.

Beriberi Heart Disease.—Benchimol and Schlesinger present observations on 22 patients with beriberi heart disease whom they observed during a three year period in Rio de Janeiro. The periods of observation varied from a few weeks to several years. All of the 22 patients were men. Whereas thiamine deficiency among the oriental population is due usually to an inadequate diet, most cases of beriberi heart disease in this hemisphere occur as a result of chronic alcoholism. All the patients discussed here were heavy drinkers, and only 50% had a history of an associated dietary deficiency. All, however, appeared well nourished. Edema was the earliest and most frequent clinical manifestation. Variable degrees of dyspnea occurred in 20 patients during the course of cardiac failure, although it appeared as an initial symptom in two. A certain instability of the pulse rate was an interesting feature, particularly a transient bradycardia that usually appeared at the onset of clinical improvement. Blood pressure variations consisted mostly of a transient hypertension during the course of heart failure. Clinical signs of polyneuritis were present in all but two cases and were rarely of clinical significance. The main roentgenologic and electrocardiographic features proved reversible on thiamine treatment. The occasional diagnostic difficulties in distinguishing cardiac beriberi from hypertensive and arteriosclerotic heart disease are pointed out. There were six deaths caused by heart failure. Five cases came to autopsy, and thiamine deficiency was confirmed in all of them. The unfavorable prognosis of beriberi heart disease in certain cases is due to the prolonged duration of thiamine deficiency leading to an irreversible myocardial fibrosis. This emphasizes the importance of early recognition and suitable treatment. Although vitamin B_1 administered parenterally is considered the specific treatment for cardiac beriberi, some patients respond to bed rest, salt-free diet, digitalis, and mercurial diuretics. The beneficial effects of these nonspecific measures should not, therefore, rule out the diagnosis of thiamine deficiency. Certain irreversible types of cardiac beriberi may show only slight improvement or no response at all to thiamine medication.

American Journal of Orthopsychiatry, New York

23:445-666 (July) 1953. Partial Index

Psychogenic (Hysterical) Dysphagia: Report of Case. B. Karpman. —p. 472.

Clinical Data and Dynamics Considerations in Certain Cases of Childhood Schizophrenia. A. P. Weil.—p. 518.

Juvenile Alcoholism: Psychodynamic Case Study of Addiction. E. I. Falstein.—p. 530.

Periodicals on file in the Library of the American Medical Association may be borrowed by members of the Association or its student organization and by individual subscribers, provided they reside in continental United States or Canada. Requests for periodicals should be addressed "Library, American Medical Association." Periodical files cover only the last 11 years, and no photoduplication services are available. No charge is made to members, but the fee for other borrowers is 15 cents in stamps for each item. Only three periodicals may be borrowed at one time, and they must not be kept longer than five days. Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted.

American Journal of Public Health, New York

43:961-1076 (Aug.) 1953. Partial Index

Current Status of Tuberculosis Control in United States. R. J. Anderson. —p. 961.
Modern Treatment of Tuberculosis. H. L. Israel.—p. 965.
Occupational Health Program in State Health Department. S. H. Osborn and J. H. Johnston.—p. 968.
Noise as Factor in Health. A. F. Meyer Jr., R. L. Peterson and H. E. Bell.—p 978.
*Some Basic Considerations of Obesity as Public Health Problem. N. Jolliffe.—p 989.
Evaluation of Prenatal Care and Its Relationship to Social Class and Social Disorganization. A. Yankauer, K. G. Goss and S. M. Romeo. —p. 1001.
Newburgh-Kingston Caries Fluorine Study: V. Pediatric Aspects—Continuation Report. E. R. Schlesinger, D. E. Overton and H. C. Chase. —p. 1011.
Standards of Care in Nursing Homes. J. H. Kinnaman.—p. 1020.
School Health Program and Handicapped Child. A. Lesser.—p. 1023.
First Medical Care Program in Hotel Industry. P. P. Guidotti.—p. 1030.

Basic Considerations of Obesity.—Jolliffe stresses that obesity is invariably caused by a greater intake of calories in food than expenditure of calories as energy. This fact is important, not only in understanding the cause of obesity but in its treatment. All methods of freeing the obese from excess fat are effective only in so far as they aid in producing and maintaining a calorie deficit. Adjuvants to the low caloric diet, whether medicinal, physical, psychological, or educational, are valuable only in so far as they increase the caloric expenditure or aid the patient to control his appetite and to adhere to the prescribed diet. Those adjuvants that do not aid in one of these ways probably lead to more harm than good. The reducing diet should form the basis of dietary reeducation so that the proper eating habits will continue after the desired loss of weight has been attained. For this reason skipping meals, uncommon or "trick" diets, and high fat diets that do not furnish a sound basis for permanent dietary habits are not recommended. The education of the patient in elementary dietetics, that is, the importance of calorie counting, must be emphasized. A number of persons reduce without ever learning food values. This they do by following a rigid menu and never deviating from the prescribed plan. When the desired amount of weight has been lost, it is promptly regained because the reducer has learned nothing of the energy value of foods. To gain freedom from rigid, monotonous menus, in order to reduce and then stay reduced, it is necessary to learn food values in terms of standard portions.

American Surgeon, Atlanta, Ga.

19:585-684 (July) 1953

Challenge of Internship and Residency Problem. H. L. Claud.—p. 585.
Complications of Partial Gastrectomy for Peptic Ulcer. J. D. Martin Jr., E. D. Grady and W. C. McGarity.—p. 593.
*Excisional Therapy of Aortic Aneurysms. M. E. De Bakey and D. A. Cooley.—p. 603.
Postoperative Vascular Complications. G. H. Yeager and A. R. Mansberger Jr.—p. 613.
An Evaluation of Maes Leg Amputation. T. G. Orr Jr.—p. 623.
Appendicitis: Trends in Management. J. T. Mauldin.—p. 629.
Benign Giant Cell Tumor of Bone. S. Krantz.—p. 636.
Cytology: An Aid in Early Diagnosis of Cancer of Cervix. R. B. Chrisman Jr.—p. 650.
Indications for Segmental Resection and Local Excision in Pulmonary Surgery. H. H. Seiler.—p. 654.
Transposition of Ileocolic Segment as Substitute Stomach Following Total Gastrectomy. L. H. Wilkinson, A. G. Simms II and C. S. Williamson.—p. 664.
Medical Shock with Sudden Shifts of Extracellular and Intracellular Fluids. P. P. Salter Jr.—p. 670.
Carcinoma of Stomach—A Challenge to the Physician. H. W. Mayo Jr. —p. 675.

Excisional Therapy of Aortic Aneurysm.—De Bakey and Cooley are of the opinion that the use of the excisional form of therapy is dependent for the most part upon the location and nature of the lesion. Thus, sacciform aneurysms in which the neck is relatively small and the wall of the parent vessel is suitable for suture may be excised with lateral arteriorrhaphy to repair the aortic defect. Such lesions are usually syphilitic in origin and are most frequently encountered in the upper thoracic aorta, particularly about the aortic arch. The preferable exposure for such lesions involving the ascending and transverse portions of the arch consists of a right anterior thoracotomy through the second or third interspace with cephalad extension by median sternotomy or with extension into the left hemithorax by transeverse sternotomy as the situation demands. For lesions involving the descending limb of the aortic arch, a similar thoracotomy approach is used through the left side. Aneurysms in the lower reaches of the aorta tend to be more extensive and to involve a segment of the aorta itself. This is particularly true of those in the abdominal region that are more likely to be arteriosclerotic in origin and fusiform in type. Accordingly, their extirpation usually requires excision of a varying segment of the involved aorta with the aneurysm and bridging of the defect in the aorta by means of an aortic homograft to restore normal circulation. During the performance of this procedure temporary arrest of the circulation in the aorta distal to the origin of the aneurysm is necessary, raising the question of possible ischemic damage to the tissues below the point of occlusion. In the experience of these authors, no significant ischemic manifestations were observed after such occlusion above the renal vessels for a maximum period of 45 minutes and below the renal vessels for a maximum period of 105 minutes. The surgical approach to aneurysms located in the lower thoracic and upper abdominal part of the aorta is best provided by a left thoracotomy through the resected bed of the rib opposite the origin of the aneurysm with extension into the abdomen as a thoracoabdominal approach if necessary. For aneurysms involving the abdominal aorta below the origin of the renal vessels, an abdominal approach, through a midline incision extending from points well above and below the umbilicus, is preferred. The procedure of excision and replacement with aortic homograft has been done in 10 aneurysms involving the lower thoracic and abdominal aorta with one death from progressive uremia and secondary hemorrhage in a 74-year-old woman. The gratifying early results obtained with this method suggest that it is superior to the treatments that employ promotion of thrombosis and fibrotic organization by occlusion of the parent vessel, introduction of foreign material, or fibroplastic agents.

Annals of Internal Medicine, Lancaster, Pa.

39:203-432 (Aug.) 1953

Influenza: The Newe Acquayantance. T. Francis Jr.—p. 203.
Clinical and Laboratory Observations on Brucella Melitensis in Egypt: Study of 100 Cases. J. H. Killough, G. B. Magill and S. I. Said. —p. 222.
Pericardial Effusion Associated with Myxedema. P. A. Marks and B. S. Roof.—p. 230.
Management of Upper Gastrointestinal Hemorrhage. T. A. Warthin, F. P. Ross, D. V. Baker Jr. and E. Wissing.—p. 241.
*Clinical Course, Following Adrenal Resection and Sympathectomy, of 82 Patients with Severe Hypertension. W. A. Jeffers, H. A. Zintel, J. H. Hafkenschiel and others.—p. 254.
Relationship of Chronic Ulcerative Colitis and Cirrhosis. F. W. Hoffbauer, J. S. McCartney, C. Dennis and K. Karlson.—p. 267.
*Disease of Liver Associated with Ulcerative Colitis. J. A. Bargen.—p. 285.
Some Observations on Relationship Between Weight Changes Following Sodium Restriction and Those Associated with Menstrual Cycle in Normal Young Women. C. B. Thomas.—p. 289.
Advances in Antibiotic Therapy. J. W. Haviland.—p. 307.
*Occult Subacute Bacterial Endocarditis Manifested by Hematologic Abnormalities, Including Pancytopenia. W. B. Parsons Jr., T. Cooper and C. H. Scheifley.—p. 318.
Protein-Bound Blood Iodine in Cardiovascular Disease. H. W. Allison and T. L. Bliss.—p. 326.
Experimental Hypertension. D. M. Green.—p. 333.

Adrenalectomy and Sympathectomy in Severe Hypertension.—The clinical course is reported of 82 patients with severe hypertension who were followed from 1 to 33 months after varying degrees of adrenal resection, performed with or without sympathectomy. The indications for operation included three features, namely, average diastolic blood pressure of 122 mm. Hg. or more, failure to respond to intensive medical therapy, and evidences of progressive vascular damage. The tentative contraindications included any one of the following: poor renal function, with excretion of less than 20% of phenolsulfonphthalein 15 minutes after intravenous injection, and/or blood urea nitrogen of over 20 mg. per 100 cc.; convalescence from a stroke or coronary occlusion for less than six months; age of 55 years or more; and inability, for any reason, to cooperate in taking adrenal cortical replacement therapy. Of the 82 patients, 54 were subjected to an Adson type of sympathectomy, plus either subtotal or total adrenalectomy. The modified Adson operation included removal of the 12th thoracic and the upper two lumbar sympathetic ganglions, together with interruption of the three splanchnic nerves. In the case of subtotal adrenalectomy, all adrenal tissue was removed except a remnant about 6 mm. in diameter adjacent to the adrenal vein on the left side. These operations were performed through a subdiaphragmatic, retroperitoneal approach in two stages about 10 days apart. Further observations will be required to determine whether the Adson type of sympathectomy, combined with total or subtotal adrenalectomy, is more or less effective than thoracolumbar sympathectomy, or total adrenalectomy without sympathectomy. Follow-up was too short for evaluation of results in 8 patients; 19 showed an excellent response, in 11 the response was fair, in 25 the response was poor, and 19 did not survive. Only one died from uncomplicated adrenal insufficiency. The usual cause of death was a stroke or a coronary occlusion. Those having paroxysmal dyspnea or congestive heart failure showed the most striking improvement after surgical intervention. This appears to be primarily the result of extensive resections of the adrenal cortex. Objective changes observed in the surviving 63 patients were heart size reduced in 25, improvement of the eyeground in 30, and the electrocardiogram less abnormal in 17. During the first month after the operation, including extensive adrenal resection, a liberal amount of cortical replacement therapy was given, including cortisone, sodium chloride, and desoxycorticosterone acetate. Patients were taught to report untoward symptoms promptly to their physicians and to seek medical attention in the event of a respiratory infection or other febrile episode, in order that replacement therapy could be temporarily increased. With these precautions no patient has required readmission to the hospital for the treatment of acute adrenal insufficiency during the past 24 months.

Disease of Liver with Ulcerative Colitis.—Of 32 patients who underwent liver biopsy, 26 were selected because of clinical or laboratory evidence suggestive of hepatic disease, while the remaining 6 who were without signs or symptoms of hepatic dysfunction served as controls. Two of the six patients were demonstrated to have a normal microscopic picture, two had infiltration with fat, and two had pericholangitis. Five patients had normal livers. The livers of nine patients were infiltrated with fat, but in none of these could the specific lesion have been suspected from the clinical or laboratory survey. Seven of the nine patients had abnormal retention of sulfobromophthalein, more than 5%. The result of the thymol turbidity test was negative in all nine patients. It is of interest that in eight of the nine patients only minor microscopic changes were associated with fat infiltration, and in none was cirrhosis an associated condition. It would seem that in patients with chronic ulcerative colitis many conditions and factors, such as malnutrition, lack of lipotropic agents, anemia, and the toxic effects of undetermined bacterial or chemical products, might be present that would contribute to the production of a fatty liver. In five patients the microscopic findings were pericholangitis with stasis of bile in three; diffuse hepatitis was also present in three. In three, a diagnosis of postnecrotic cirrhosis was considered. Most of the patients with paricholangitis with bile stasis, diffuse hepatitis, and cirrhosis had had a reversal of the albumin-globulin ratio and positive results to thymol turbidity, zinc sulfate turbidity, and cephalin-cholesterol flocculation tests. Definite conclusions cannot be drawn concerning the possibility that the disease in these patients might have been viral hepatitis.

Occult Subacute Bacterial Endocarditis.—Hematological abnormalities overshadowed the classic manifestations of subacute bacterial endocarditis in three men, aged 44, 46 and 60 years, respectively, reported on by the authors. The three patients had anemia with a hemoglobin level of 10.8 gm., 5.5 gm., and 10.8 gm. per 100 cc., respectively; anemia of this type has been observed in 150 of 200 patients with subacute bacterial endocarditis recently reviewed by the same authors. One patient presented anemia of the normocytic and normochromic type, the second had pancytopenia that has not been present in any case previously reported, and the third had hypochromic anemia and neutrophils that contained toxic granules. Although the heart was enlarged and a systolic murmur was heard over the entire precordium in the first patient, attention was focused on the unexplained anemia that for months had dominated the clinical picture and proved refractory to treatment. In the absence of fever, cellular elements in the urine and a palpable spleen, the relation of the anemia to the cardiac findings was not recognized. Necropsy revealed subacute bacterial endocarditis of the mitral valve in this and in the second patient in whom pancytopenia was attributed to toxic suppression of bone marrow activity, since leukemic infiltration and the hyperplasia usually associated with hypersplenic states were absent. The rather pronounced splenomegaly in the second patient was consistent with the tentative diagnosis of an abdominal lymphoma. A brief febrile episode was attributed to pneumonitis. On only one occasion was a cardiac murmur heard by one observer, and repeated examinations by several physicians failed to confirm this finding. In the third patient, cardiac murmurs were absent throughout most of the course of the disease. Leukocytosis present on admission was associated with a pulmonary complication that was probably embolic. Subsequent counts revealed a mild leukopenia. When a murmur was heard late in the course of the disease, cultures of the blood were performed and demonstrated streptococci. The discovery of the murmur led to establishment of the diagnosis and institution of antibiotic therapy. The association of a cardiac murmur and an unexplained anemia or of an unexplained fever and anemia should suggest the possibility of bacterial endocarditis.

Arch. of Physical Medicine & Rehabilitation, Chicago

34:475-522 (Aug.) 1953

Useful Modifications of Progressive Resistive Exercise Technique. R. E. McGovern and H. B. Luscombe.—p. 475.

Clinical Approach to Etiology of Cerebral Palsy. L. Greenspan and G. G. Deaver.—p. 478.

Medicolegal Aspects of Industrial Injuries. S. Sherman.—p. 485.

Personality Evaluation in Rehabilitation of Rheumatoid Spondylitis. B. L. Boynton, L. A. Leavitt, R. R. Schnur and others.—p. 489.

*Evaluation of Treatment of Duodenal and Gastric Ulcers in Physical Medicine and Rehabilitation Service. J. Ehrlich.—p. 494.

Value of Occupational Therapy in Peptic Ulcer.—At a Veterans Administration Hospital patients are referred to the physical medicine rehabilitation service as soon as a diagnosis of peptic ulcer is established. The rehabilitation treatment is usually given concurrently with medical therapy, which consists of a modified Sippy regimen that was gradually liberalized. Relaxation and deep breathing exercises are given once or twice a day. Localized residual muscular tension is relieved by passive movements of the arms and legs or by moving the whole body. An awareness of the difference between a state of muscular tension and that of relaxation must be developed. Relaxation and deep breathing exercises bring relief of the tension states. The aim of occupational therapy is to divert the interest of the patient from his body through the selection of a proper occupation. Work should be given that will sustain interest. Through the use of a variety of mediums, such as plastics, woodwork, art, stencilling, jewelry, leather working, and weaving, specifically selected to meet the individual needs and inclinations of the patient, the nervous manifestations noted on initial interview of the ulcer patient are gradually alleviated and at times disappear altogether. Patients no longer gaze blankly into space or sit rigid. They have forgotten self in the expressing of creative ideas. The therapist is working toward three goals in treating the tense ulcer patient: first, an externalization of interests, thus diverting the mind of the patient from his illness toward a new interest; second, an increase in his work tolerance, starting slowly and gradually changing the activity to one of greater significance and more purposeful character; and, third, resocialization, by drawing the patient into a group situation. A total of 204 patients with peptic ulcer (183 duodenal and 21 gastric) were referred to the rehabilitation service. Of these, 190 were improved and 14 were unchanged. Patients in the older age groups did not respond as well as the younger patients. The author feels that occupational and corrective therapy are beneficial to peptic ulcer patients.

Bulletin of Johns Hopkins Hospital, Baltimore

93:1-64 (July) 1953

Bone Disorder Associated with Copper Deficiency: I. Gross Morphological Roentgenological, and Chemical Observations. J. H. Baxter and J. J. Van Wyk.—p. 1.
Id.: II. Histological and Chemical Studies on Bones. J. H. Baxter, J. J. Van Wyk and R. H. Follis Jr.—p. 25.
*Anemia of Copper Deficiency in Dogs Compared with that Produced by Iron Deficiency. J. J. Van Wyk, J. H. Baxter, J. H. Akeroyd and A. G. Motulsky.—p. 41.
Filter Paper Electrophoretic Identification of Urinary Chorionic Gonadotrophin: New Test for Pregnancy. H. M. Stran and G. E. S. Jones.—p. 51.

Anemias Caused by Copper and Iron Deficiency in Dogs.—Van Wyk and his co-workers found that dogs made anemic as a result of iron deficiency had the classic changes in peripheral blood consisting of relatively normal numbers of red blood cells, with a marked decrease in red blood cell size, hemoglobin content, and hemoglobin concentration. In the bone marrow, iron deficiency resulted in hyperplasia of hemoglobin-deficient normoblasts, with no appreciable shift to the left or evidence of a disorder of maturation. This is in line with the generally accepted conclusion that the hemopoietic abnormality of iron deficiency can be explained solely on the basis of a deficiency of hemoglobin. In contrast to the anemia of iron deficiency, the anemia that occurred as a result of copper deficiency was characterized by a reduction in the number of erythrocytes, with the maintenance of relatively normal red blood cell indexes. In the marrow, there was no evidence of a deficiency in hemoglobin content but rather evidence of defective development of cells of the erythrocytic series. Irrespective of any role that copper may play in the metabolism of iron and the formation of hemoglobin, the present observations are suggestive that, at least in the dog, copper is essential for the normal maturation of the erythrocytic elements of the marrow and the production of normal numbers of red blood cells.

Connecticut State Medical Journal, Hartford

17:563-652 (July) 1953

Asphyxia Neonatorum: The Syndrome, Its Prevention and Its Treatment. D. M. Little Jr., L. J. Hampton and M. L. White.—p. 565.
Mesenteric Chylous Cysts: Associated Diagnostic and Surgical Problems. R. M. Lowman, A. J. Mendillo, L. Waters and others.—p. 575.
Injuries of Ankle Joint—Evaluation. C. S. Neer II.—p. 580.
Niacinamide Therapy for Joint Mobility: Therapeutic Reversal of Common Clinical Manifestation of "Normal" Aging Process. W. Kaufman.—p. 584.
Commentary on General Practice. G. S. Gudernatch.—p. 590.

Endocrinology, Springfield, Ill.

53:123-244 (Aug.) 1953

Electron Microscopic Observations on the Thyroid. H. Braunsteiner, K. Fellinger and F. Pakesch.—p. 123.
Effects of Growth Hormone in Dogs. J. Campbell, H. R. Hausler, J. S. Munroe and I. W. F. Davidson.—p. 134.
Metabolic Pattern of C^{14}-Diethylstilbestrol. D. J. Hanahan, E. G. Daskalakis, T. Edwards and H. J. Dauben Jr.—p. 163.
Effect of Cortisone on Thyroidal and Renal Metabolism of Iodine. S. H. Ingbar.—p. 171.
Study of Interrelationships of Maternal and Fetal Adrenal Glands of Rats. J. M. Jones, C. W. Lloyd and T. C. Wyatt.—p. 182.
Effect of Pancreatic Extracts on Ketone Body Production of Rat Liver. R. D. Stewart and E. Roitman.—p. 192.
Effect of Hypophysectomy on Fetal and Placental Growth in Rat. E. Knobil and W. L. Caton.—p. 198.
Corticosteroid Metabolism in Liver: Studies on Perfused Rat Livers. O. Hechter, M. M. Solomon and E. Caspi.—p. 202.
Influence of Decidual Tissue Upon Pseudopregnancy. J. T. Velardo, A. G. Olsen, F. L. Hisaw and A. B. Dawson.—p. 216.
Comparison of Effect of 11-Ketoprogesterone, 11α-Hydroxyprogesterone and 11β-Hydroxyprogesterone Upon Glycosuria of Partially Depancreatized Rat. D. J. Ingle, D. F. Beary and A. Purmalis.—p. 221.
Glycogen Deposition in Different Skeletal Muscles Induced by Cortisone and Estradiol. S. L. Leonard.—p. 226.

Geriatrics, Minneapolis

8:359-422 (July) 1953

Etiology and Treatment of Atherosclerosis. J. Pomeranze.—p. 359.
Studies on Processes of Aging: 4. Physiologic Influences on Psychic Functioning in Elderly People. A. J. Silvermann, E. W. Busse, R. H. Barnes and others.—p. 370.
Preoperative and Postoperative Care of the Elderly. E. L. Strohl.—p. 377.
Therapeutic Studies with ACTH and Cortisone: 1. Long Term Observations in Rheumatoid Arthritis and Other Diseases. F. Homburger and C. D. Bonner.—p. 385.
*Inguinal Hernia in Men Over 55: Elective Versus Emergency Operation. M. W. Debenham and C. Davis.—p. 403.

Inguinal Hernia in Men Over 55.—Debenham and Davis say that many men over 55 years of age endure the discomfort of an inguinal hernia, because they have been led to fear the complications of surgery and have been given the impression that the chance of the hernia recurring is great. The authors feel that inadequate attention has been given to the dangers that may result if the hernia is not repaired and an emergency operation becomes necessary. In a recent series of 210 cases of intestinal obstruction in patients over 60 years of age, the mortality was 54%, and half of the obstructions were due to strangulating hernia. This raises the question whether it would not be possible to eliminate this type of emergency by elective surgery before the strangulation occurs. A study was made of the results of 365 hernioplasties done at the San Francisco Hospital during a three year period. Of these, 194 patients were men over 55 years of age at the time of operation, and the remainder were patients from 35 to 55, and served as a control group. The main interest was a comparison between those operated on as emergencies because of strangulation and obstruction and those who had an elective operation. The mortality in emergency hernia operations in this series was 10% as compared to less than 0.5% in those in which elective operation was done. The recurrence of hernia was not appreciably greater in elderly patients than in a similar group of young adults. The authors feel, therefore, that unless there is some special reason for not operating, almost all hernias should be repaired regardless of chronologic age.

GP (J. Am. Acad. Gen. Practice), Kansas City, Mo.

8:1-164 (Aug.) 1953

Adverse Effects of Antibiotic Treatment. G. G. Jackson and H. F. Dowling.—p. 34.
Asphyxia—Consciousness Will Save Life. P. J. Flagg.—p. 41.
Which Patients May Fly. S. Kreinin.—p. 45.
Treatment of Bronchial Asthma. V. J. Derbes.—p. 49.
Refractory Heart Failure. J. F. Stapleton and W. P. Harvey.—p. 57.
Fundamentals in Management of Edema. E. S. Orgain.—p. 75.

Journal of Applied Physiology, Washington, D. C.

6:1-78 (July) 1953. **Partial Index**

*Action of Human Gastric Juice on Human Blood Clots. P. Barkham and L. M. Tocantins.—p. 1.
Pyruvate Accumulation in Preserved Blood. M. C. Blanchaer and S. L. Baldwin.—p. 8.
Detection and Measurement of Freezing in Tissue. H. T. Meryman and J. W. Moore.—p. 15.
Renal Excretion of Salt and Water Consequent to Hypertonic Saline Infusion Followed by Water Ingestion. W. H. Birchard, J. D. Rosenbaum and M. B. Strauss.—p. 22.
Optimal Time of Diffusion of Thiocyanate Ion in Normal Men: Correlation of Thiocyanate Space with Body Weight, Surface Area and Lean Body Mass. D. E. Bass, C. R. Kleeman, M. Quinn and J. A. Klimas.—p. 33.
Venous Return from Skin and Muscles of Forearm. I. F. S. Mackay.—p. 39.
Fibrinolytic and Proteolytic Activity of Human "Plasminogen," Prepared from Fraction III of Human Plasma. E. E. Cliffton and D. Cannamela.—p. 42.
Carbohydrate Intermediates and Related Cofactors in Human Erythrocyte. G. R. Bartlett, E. Savage, L. Hughes and A. A. Marlow.—p. 51.

Action of Human Gastric Juice on Human Blood Clots.—The influence of the gastric juice in favoring or disturbing hemostasis in gastroduodenal hemorrhage has received relatively little study. Clinically, such bleeding may cease for a while but may become active again after some hours, suggesting the possibility of clot disruption by the gastric juice. This study was undertaken to gather quantitative and qualitative data on the interaction of gastric juice and blood clots. A wellretracted whole blood clot, derived from a known volume of blood, was placed in a glass tube containing a known volume of gastric juice. The tube and its contents were then placed in a metal rack, strapped to a mechanical vibrator, and incubated for a given time at 37 C. The clots were weighed before and after they were put in the gastric juice. The weight lost was taken as an index of the amount of clot disruption caused by contact with the gastric juice. A number of normal adults of both sexes were used as donors. All glassware for drawing and collection of the blood was siliconized. Usually 50 ml. of blood was drawn from each subject and carefully transferred to a beaker from which it was then measured out in 1 ml. quantities into 60 by 15 mm. glass tubes, which were corked and placed in the incubator at 37 C for 2 hours. Clot retraction was taken as maximal after that time. The clot lytic activity of normal human gastric juice appeared to be a function of the concentration and pH of the juice and the size and cellular composition of the clot. Where peptic activity is greatly reduced or absent, swelling of the clot and not lysis occurred. Moderate dilution enhances the clot lytic activity of gastric juice, as it does the rate of coagulation of normal blood and plasma. The increased lytic activity of the gastric juice on moderate dilution may be due to reduction of peptic inhibitory factors present in the juice or possibly to an optimum physicochemical readjustment between substrate and enzyme.

Journal of Bacteriology, Baltimore

66:1-122 (July) 1953. **Partial Index**

Relation Between Changes in Stability of Pasteurella Tularensis Suspensions and in Its Bacterial Population. Y. Avi-Dor and H. Yaniv.—p. 1.
Metabolism of Species of Streptomyces: VII. Hexosemonophosphate Shunt and Associated Reactions. V. W. Cochrane, H. D. Peck Jr. and A. Harrison.—p. 17.
Infection of Mice with Single Spores of Histoplasma Capsulatum. L. Ajello and L. C. Runyon.—p. 34.
Rapidly Growing, Acid Fast Bacteria: I. Species' Descriptions of Mycobacterium Phlei Lehmann and Neumann and Mycobacterium Smegmatis (Trevisan) Lehmann and Neumann. R. E. Gordon and M. M. Smith. —p. 41.
Increased Pantothenate-Synthesizing Enzyme in Streptomycin-Resistant Escherichia Coli. O. Wyss and G. E. Schaiberger.—p. 49.
Paradoxical Effect of Penicillin. R. F. Parker.—p. 60.
Action of Streptomycin: VI. New Metabolic Intermediate. W. W. Umbreit.—p. 74.
Role of Iron in Biology of Brucella Suis: I. Growth and Virulence. W. S. Waring, S. S. Elberg, P. Schneider and W. Green.—p. 82.
Some Factors Influencing Laboratory Mass Cultivation of Shigella Sonnei. R. B. Johnson.—p. 92.

Journal of International College of Surgeons, Chicago

20:133-258 (Aug.) 1953

Intrahepatic Distribution of Hepatic Artery in Man. J. E. Healey Jr., P. C. Schroy and R. J. Sorensen.—p. 133.
Modern Conceptions of Prostatic Obstruction. A. I. Willinsky, B. Willinsky and J. Willinsky.—p. 149.
Continuous Bath Treatment in Surgical Therapy. R. Jelinek.—p. 156.
Hazards in Diagnosis of Tumors of Renal Pelvis. M. L. Brodny and B. E. LeVine.—p. 161.
Benign Leiomyoma of Esophagus. J. Rabinovitch, R. Nissen and P. Rabinovitch.—p. 166.
Entrance of Common Bile Duct into Apex of Duodenal Diverticulum. O. B. Camp, J. D. Hallinan and H. Abtahi.—p. 172.
*Surgical Treatment of Skeletal Metastases. I. Stein and M. L. Beller. —p. 175.
Ureteral Injuries Following Pelvic Operations. P. Niceley.—p. 187.
Technical Aid in Esophageal Diverticulectomy. R. S. Wilson, F. T. Wallace, J. A. Whiting and C. H. Poole.—p. 192.
Retinoblastoma: Report of Case. N. T. Mascati.—p. 196.
Miscarriage Caused by Unsuspected Pelvic Tuberculosis: Report of Case. B. Leavitt.—p. 200.
Acute Cholecystitis: Optimum Time for Surgical Intervention, Based on Physiopathologic Picture. S. Frehling.—p. 204.
Traumatic Rupture of Renal Vein with Intervention One Month After Accident. J. A. Walshe.—p. 208.

Surgical Treatment of Skeletal Metastases.—According to Stein and Beller, secondary skeletal malignant lesions are more frequent than primary malignant bone tumors. The commonest are carcinoma metastases by the lymphatic or blood stream. Occasionally there may be direct extensions of a neighboring soft tissue malignant tumor into bone. In addition, the lymphomas or leukemias may be present with osseous manifestations. Metastases by retrograde lymphatic extension favors bone nearest the primary growth. Thus, mammary carcinoma favors the ribs, the thoracic portion of the spine, and the skull. In prostatic cancer, it is the sacrum, the lumbar portion of the spine, and the pelvis that are most commonly involved. Hematogenous metastatic deposits may occur in any of the bones. They are, however, rarely seen distal to the knees or elbows. There are two principal forms of bone metastases, osteolytic and osteoblastic. Osteoblastic lesions are accompanied by serum alkaline phosphatase elevation. Purely osteolytic lesions produce little or no rise in the alkaline phosphatase level. The greater the degree of bone destruction, the higher may be the serum calcium and phosphorus levels. In osseous metastases accompanied by impending or actual pathological fracture, the usual methods involving the use of plaster of paris supports, splints, and traction are often insufficient and have, moreover, confined patients to bed when the lesion involves the lower extremities. This results in further loss of bone substance from disuse, increased likelihood of renal disturbances, and the problem of bed sores. The authors believe that intramedullary fixation is the treatment of choice for actual or impending pathological fractures of the long bones. The clover leaf nail of Küntscher is used in the femur. In other long bones, especially the humerus, the three point fixation technique of Rush is preferred. When pathological fracture has occurred, the open method of intramedullary nailing is the procedure of choice. The authors present histories of three patients in whom the Küntscher intramedullary clover leaf nail was used in pathological fractures of the femur. A rare case of Hodgkin's disease, originating as destructive spondylitis of the lumbar spine, is reported. Temporary clinical relief of back pain was obtained by a spine fusion operation. The subsequent lymphagenous dissemination was temporarily controlled by high voltage roentgen therapy and the use of nitrogen mustard.

Journal of Investigative Dermatology, Baltimore

21:1-68 (July) 1953

Isoniazid in Treatment of Chronic Discoid Lupus Erythematosus: Report of Three Cases. E. Edelson.—p. 1.
Hydroa Vacciniforme Treated with Potassium Para-Aminobenzoate. C. J. D. Zarafonetis, A. C. Curtis and J. M. Shaw.—p. 5.
Studies on Chemical Composition of Human Hair Fat: II. Overall Composition with Regard to Age, Sex and Race. N. Nicolaides and S. Rothman.—p. 9.
Grenz Rays. M. B. Hollander.—p. 15.
*Report on 9 Months Treatment of Leprosy with Isoniazid (Nydrazid). F. Latapi, J. B. Ribio, O. Rodriguez and S. C. Estrada.—p. 27.
Electron Microscopic Study of Epidermal Basal Cells and Epidermal Dermal Junction. E. L. Laden, I. Linden, J. O. Erickson and D. Armen.—p. 37.
Penetration of Fat and Fatty Acid into Skin of Rat. E. O. Butcher. —p. 43.
Therapeutic Assays of Skin and Cancer Unit of New York University Hospital: Assay VIII. Isonicotinylhydrazine (Rimifon®) in Treatment of Tuberculosis Cutis Some Other Granulomatous Processes and Miscellaneous Dermatoses of Doubtful Cause. M. Leider and H. H. Sawicky.—p. 49.
Contact Dermatitis from Rubber Caused by Allergic Sensitivity to Thio-Beta-Naphthol. I. L. Schamberg and P. Flesch.—p. 59.

Isoniazid in Treatment of Leprosy.—Latapi and co-workers treated 14 patients with leprosy ranging in age from 14 to 62 years. Tablets of isoniazid (Nydrazid) were given in doses that varied between 3 and 5 mg. per kilogram of body weight per day. No other therapy was used except when it was necessary to treat intercurrent disease, for which penicillin was given parenterally or other drugs were given that have been proved not to have any effect in leprosy. Thirteen of the 14 patients had the lepromatous type (one diffuse and 12 nodular) of the disease, and one patient had tuberculoid leprosy. Clinical and histopathological changes indicated that isoniazid was therapeutically active in the lepromatous type of leprosy. Benign or moderate lepra reactions occurred in about half of the patients with the lepromatous type treated. The results obtained justify continuation of this study. The drug was well tolerated, and no toxic manifestations could be detected.

Journal of Nervous and Mental Disease, New York

117:1-94 (Jan.) 1953

Psychomotor Epilepsy: A Clinicoencephalographic Syndrome. J. S. Garvin. —p. 1.
Some Psychosomatic Aspects of Pulmonary Tuberculosis: Review of English Language Literature. B. R. Merrill.—p. 9.
Intermediate States of Consciousness in Patients with Generalized Tics. J. E. Heuscher.—p. 29.
Mode of Action of Carbon Dioxide Treatment in Human Neuroses. L. J. Meduna.—p. 39.
Perception of Simultaneous Tactile Stimuli by Mentally Defective Subjects. M. Fink, M. A. Green and M. B. Bender.—p. 43.
Subconvulsive Metrazol Therapy. B. L. Pacella, J. Doltolo and R. R. Cerulli.—p. 50.
Social Behavior and Autonomic Physiology in Long-Standing Mental Illness. J. S. Bockoven, M. Greenblatt and H. C. Solomon.—p. 55.
Response of Serum Citric Acid Levels in Schizophrenics to Intramuscular Administration of Insulin. S. P. Gottfried, S. Natelson and J. B. Pincus.—p. 59.

Journal of Neurophysiology, Springfield, Ill.

16:343-450 (July) 1953. **Partial Index**

Spreading Cortical Convulsions and Depressions. A. van Harreveld and J. S. Stamm.—p. 352.
Relation of Cerebellum to Upper Brain Stem. J. A. Whiteside and R. S. Snider.—p. 397.
Microelectrode Analysis of Pyramidal System During Transition from Sleep to Wakefulness. D. G. Whitlock, A. Arduini and G. Moruzzi. —p. 414.
Spike Discharges in Pyramidal System During Recruitment Waves. A. Arduini and D. G. Whitlock.—p. 430.

Journal of Nutrition, Philadelphia

50:299-394 (July) 1953

Effects of Pantothenic Acid Deficiency on Pituitary-Adrenal Function in Rat. B. H. Ershoff, R. B. A. Slater and J. G. Gaines.—p. 299.
Vitamin B_{12} Content of Egg Yolks as Influenced by Oral and Parenteral Administration of Vitamin. J. V. Halick, B. L. Reid, C. L. Brown and J. R. Cough.—p. 331.
Agewise Differences in Urinary Excretion of Vitamin B_{12} Following Intramuscular Administration. D. M. Watkin, C. A. Lang, B. F. Chow and N. W. Shock.—p. 341.
Relation of Pyridine Toxicity in Rats to Dietary Vitamin E. E. L. Hove. —p. 361.
Relation of Calcium-to-Phosphorus Ratio to Utilization of These Minerals by 18 Young College Women. M. B. Patton, E. D. Wilson and J. M. Leichsenring.—p. 373.
Influence of Protein and Certain Amino Acids, Particularly Threonine, on Deposition of Fat in Liver of Rat. A. E. Harper, W. J. Monson, D. A. Benton and C. A. Elvehjem.—p. 383.

New England Journal of Medicine, Boston

249:171-214 (July 30) 1953

*Passive Immunization in Relation to Multiple Cases of Poliomyelitis in the Household: Epidemiologic Aspects in New York City, 1949-1952. M. Siegel and M. Greenberg.—p. 171.
Further Observations on Mental Disturbances Associated with Cortisone and ACTH Therapy. L. D. Clark, G. C. Quarton, S. Cobb and W. Bauer.—p. 178.
On Disregarding Findings that Cannot Explain Syndrome. W. C. Alvarez. —p. 184.
Application of Tissue-Culture Methods to Study of Poliomyelitis. T. H. Weller.—p. 186.

Passive Immunization in Poliomyelitis.—Siegel and Greenberg studied the epidemiology of multiple household infections occurring in New York City from 1949 to 1952 to answer questions regarding the chances of clinical infection after household exposure, the role of passive immunization in the community control program, and the guide lines for the distribution and application of gamma globulin. They found that the percentage of households affected with more than one case of poliomyelitis in a given year varied with the annual incidence of 2.4 to 4.4. The incidence of multiple household infections was related to the number of household members under 18 years of age and to the annual attack rate in the general population. The time interval between the onset of the initial and subsequent cases in a household followed a characteristic pattern; most of the cases occurred within the first week, about 95% within two weeks, and 99 to 100% within five weeks. The percentage of cases after the first week seemed to be somewhat higher among persons between the of 15 and 34 than among those under 15. The incidence oliomyelitis in household contacts after the onset of the index case was about 40 times greater than that of the general population. It was proportionately greater between 15 and 34 than below 14 years of age. In the group from 15 to 34, the frequency of bulbar poliomyelitis and the mortality were also increased.

New York State Journal of Medicine, New York

53:1711-1806 (Aug. 1) 1953

Intracardiac Surgery for Stenotic (Acquired) Valvular Disease. R. P. Glover.—p. 1747.
Pathogenesis and Treatment of Cardiac Asthma. C. Schuman and H. Simmons.—p. 1754.
Physiologic Principles of Resuscitation. M. S. Sadove and D. Katz. —p. 1757
Cineangiocardiography in Congenital Heart Disease—A Study of 100 Consecutive Cases. R. Gramiak, J. S. Watson, G. H. Ramsey and D. Weinberg.—p. 1761.
Electrolyte Disturbances and Low-Salt Syndrome. J. M. Steele.—p. 1766.
Therapeutic Implications in Gallstones. A. F. R. Andresen.—p. 1770.
Anorectal Tuberculosis—1952. I. Skir, J. M. Gross, N. L. Freund and others.—p. 1778.
Prolonged and Repetitive Dysmenorrhea with Pathologic Findings of Stein-Leventhal Ovary. J. A. Fitzgerald and J. L. Crossley.—p. 1780.

Ohio State Medical Journal, Columbus

49:673-768 (Aug.) 1953

Typhoid Fever—Latent Threat. S. Saslaw.—p. 689.
Sickle Cell Anemia and Salmonella Osteomyelitis. W. S. Smith.—p. 692.
Use of Cerebrospinal Fluid System as Accessory Kidney: Preliminary Note and Report of Case. W. R. Chambers.—p. 696.
Cord Under Ligament Herniorrhaphy. C. R. Lulenski.—p. 698.
Use of Nupercaine® for Spinal Anesthesia. E. B. Depp.—p. 701.
Cervical Trauma and Headache. F. Earnest III.—p. 704.

Western J. Surg., Obst. & Gynecology, Portland, Ore.

61:439-490 (Aug.) 1953

Diabetes and Pregnancy. J. M. Whitely, T. W. Adams and M. H. Parrott.—p. 439.
Intrauterine Roentgenography as an Aid in Determining Fetal Age: Preliminary Report. T. W. Adams, J. M. Whitely and M. H. Parrott. —p. 448.
Clinical Significance of Serum Amylase Test. N. D. Wilson and D. B. Seabrook.—p. 456.
Lumbar Epidural Block: Anesthetic of Choice for Cesarean Section?: Report of 100 Cases. D. C. Moore, L. D. Bridenbaugh, C. K. Owen and others.—p. 459.
*Surgical Aspects of Thyrotoxic Heart Disease. C. P. Schlicke and J. H. Delaney.—p. 464.
Perforation of Gallbladder: Clinical Study of 20 Cases. E. J. Schmitz, R. J. Schlosser and H. N. Harkins.—p. 469.
Rupture of Rectovaginal Septum at Parturition. G. F. Melody.—p. 475.

Surgical Aspects of Thyrotoxic Heart Disease.—According to Schlicke and Delaney the following cardiovascular problems are encountered in thyroid surgery: (1) operations on the thyroid in the presence of serious but unrelated cardiovascular diseases; (2) cardiac disease first appearing in the postoperative period following thyroidectomy; and (3) the management of the so-called "thyrocardiacs." Among 200 patients undergoing thyroidectomy at their clinic, 33 presented cardiovascular problems. The manner in which the thyroid may affect the heart is quite clear in some respects, rather obscure in others. There is the myxedema heart of thyroid failure. There is the so-called "mechanical goiter heart" of Rose in which a huge goiter by its sheer bulk seems to embarrass the circulation. There is the group of cardiac disorders associated with the thyrotoxic state. Cardiac muscle metabolism increases as does that of other tissues, but in addition thyroxin exercises a direct effect on the myocardium; also there may be stimulation of the accelerator fibers of the sympathetic nervous system. The decision of whether a coexisting goiter is coincidental or causative may be difficult. Occasionally a trial of therapy with iodine or one of the antithyroid drugs may be helpful, although the response of adenomatous goiters is unpredictable. The failure of symptoms, such as tachycardia, arrhythmia, and signs of congestive failure, to respond well to therapy in a patient who is past the age of 50 and who has had a long period of disability and, often, weight loss is presumptive evidence pointing to a goiter of more than coincidental interest. The authors emphasize that every patient with heart disease should be carefully studied to exclude thyrotoxicosis. When thyrotoxicosis is found to exist, thyroidectomy should be carried out.

FOREIGN

Archiv für klinische Chirurgie, Berlin

275:159-318 (Nos. 3 & 4) 1953. **Partial Index**

Carcinoma and Pseudotumors of Colon, Particularly Their Differentiation and Therapy. E. Schwarz.—p. 159.
*Results of Combined Treatment (Orchiectomy and Estrogens) in Cancer of Prostate. E. Holder.—p. 178.
Decortication in Surgical Treatment of Pulmonary Tuberculosis. F. Spath and W. Köle.—p. 191.
Experiences in Treatment of Sarcoma of Soft Parts. H. J. Betzler. —p. 226.
Clinical Aspects and Treatment of Pheochromocytoma. E. Schwarzhoff. —p. 232.
Recent Results of Biochemical Studies in Hypophysis and Adrenals. H. Dannenberg.—p. 245.
Importance of Bronchospirometry for Success of Pulmonary Resection. J. Maurath and P. Uhlbach.—p. 281.
*Is Fulminant Pulmonary Embolism Meteorotropic? H. Berg.—p. 288.

Results of Combined Orchiectomy and Estrogen Therapy in Cancer of Prostate.—Holder reviews observations on 139 patients with cancer of the prostate, who were treated at the University Clinic in Heidelberg, between 1943 and 1951. Fifty-six men were subjected to palliative treatment; 16 were treated with estrogen only, and 67 were subjected to bilateral orchiectomy plus estrogen therapy. During the first three or four years, when the palliative treatment was employed, the patients were subjected to transurethral electroresection or a suprapubic bladder fistula. These surgical interventions were often followed by roentgen irradiation. In the majority of the cases this treatment did not relieve pain, and death followed after an average period of about one year. Later, estrogen therapy was used for a time, and finally orchiectomy was combined with estrogen therapy. The group treated only with hormones is too small for statistical evaluation, but none of these patients survived longer than three years after the beginning of therapy. The third group, those who were treated by castration plus hormone therapy, showed the most favorable results: Thirty-six of these 67 patients had bone metastases. Twenty-eight patients have died, including 19 with bone metastases. Of the 39 survivors, 17 have metastases in the skeletal system (pelvis and vertebral column). Sixteen of these 39 patients are still able to work, despite the fact that 9 of them have extensive bone metastases. Supplementary electroresection was necessary in 9 of the 67 patients to counteract residual urine. The four patients who survived five or six years and of whom three have metastases had been treated for one or two years only with estrogens before orchiectomy was done. This would seem to indicate that immediate castration might not be necessary but that the patients can first be treated with estrogens. A definite statement on the average survival of these 67 patients subjected to castration plus estrogen therapy is as yet impossible, since 39 are still alive. The life expectancy of patients with carcinoma of the prostate is much greater now than before the period of antiandrogenic therapy.

Is Fulminant Pulmonary Embolism Meteorotropic?—A number of observers have presented data indicative of a relationship between fulminant pulmonary embolism and certain meteorologic events. Berg points out that some of these reports are contradictory. His own studies were based on extensive material from a relatively large geographical region; his studies were based on necropsy reports of 15 pathological institutes in western Germany. Data on 4,241 fulminant pulmonary embolisms that occurred between the years 1929 and 1952 were correlated with information obtained from the corresponding meteorologic charts. These studies revealed that "group formation" of embolisms is not demonstrable either in a single locality or in western Germany as a whole. The term "group formation" signifies an incidence considerably exceeding accidental concurrence of embolisms with certain meteorologic changes. It was found that the occurrence of a number of embolisms on the same day or on succeeding days did not occur more frequently during meteorologic changes than at other times during the period of observation. There is no seasonal difference in the frequency of embolisms, but there is a greater frequency of embolisms during certain hours of the day; that is, they are most frequent at 7 and 11 a. m. and at 4 and 8 p. m. The smallest number occurs around midnight. The greatest incidence at these hours is regarded a result of greater mobility and exertion of the patients at these times and particularly a concurrence with meal times. There is no connection in west Germany between the occurrence of fulminant pulmonary embolism and the passage of cold or warm fronts or with the occurrence of thunder storms. There is also no established connection between the occurrence of fulminant embolism and solar disturbances.

Archives of Disease in Childhood, London

28:161-246 (June) 1953. **Partial Index**

Tests for Adulteration of Human Milk. R. A. Miller and R. W. B. Ellis. —p. 161.
Pulmonary Atelectasis in Young Children. M. I. Griffiths.—p. 170.
Atypical Pneumonias in Ceylonese Children. C. C. De Silva and G. H. Cooray.—p. 176.
Recurrent Parotitis in Children. H. E. Jones.—p. 182.
*Pulmonary Thrombosis and Its Association with Unexpected Death in Childhood. J. L. Emery.—p. 187.
Blood Sugar Studies on Premature Babies. O. C. Ward.—p. 194.
Intracranial Bruits in Infants and Children. R. Hughes and R. M. Todd. —p. 198.
Rupture of Fetal Heart During Labour. R. A. McInroy and A. L. M. Graham —p. 201.
Vascular Ring: Cause of Congenital Stridor. R. W. Smithells.—p. 204.
Congenital Stippled Epiphyses. J. N. Briggs, J. L. Emery and R. S. Illingworth.—p. 209.
Increased Haematuria in Nephritis During Cortisone and ACTH Administration. L. Michaels and G. Walters.—p. 213.
Hyperpyrexia in Post-Kernikterus Syndrome. W. H. Patterson and R. M. Forrester.—p. 217.
Hodgkin's Disease in Childhood. D. M. Douglas and A. E. Claireaux. —p. 222.

Pulmonary Thrombosis and Unexpected Death in Childhood.—Emery reports on pulmonary vascular thrombosis in 15 children seen in a series of 200 consecutive necropsies. The material consisted of routine necropsies at two children's hospitals and also cases referred through the coroner. A particular necropsy method was used in an attempt to leave fluid and inflammatory exudates in the respiratory passages in their natural position. Cases were included only when no sepsis was found in the lungs. The 15 children fell into four groups. 1. There were two severely debilitated neonatal infants. 2. In four children the thrombosis was the terminal incident in children with chronic disease. 3. Five children were admitted to hospital with acute severe dyspnea. 4. The last four children had been referred to the coroner, because they were found dead of unexplained causes. The author feels that the pulmonary thrombosis was probably not the primary cause of death in these children. The presence of antemortem thrombi and of alveolar edema suggests that the lesion was the terminal incident. Those children having symptoms before death suggest that the pulmonary thrombosis was a major factor in death. In the children who were observed in the hospital before the onset of pulmonary thrombosis, symptoms included pyrexia and dyspnea showing no response to antibiotics. Many of these children had a history of loose stools and vomiting, that is, increased loss of fluid from the body. This suggests that hemoconcentration and increased viscosity of the blood may have been a factor in the formation of the thrombosis. If an ill child develops unexpected pyrexia and dyspnea associated with loose stools or vomiting, venous thrombosis should be considered, and anticoagulant therapy is indicated, particularly if there is no response to antibiotics. In commenting on the sudden deaths referred to the coroner, the author says that since the decline in popularity of "status thymaticus" the most popular finding in these unexpected deaths has been that of microscopic evidence of upper respiratory infection. Such microscopic inflammatory foci were present in the four cases reviewed here, but in no greater degree than is seen in other children with otherwise adequate causes of death.

Archivos de Oftalmología de Buenos Aires

28:49-96 (Feb.) 1953. **Partial Index**

Tensional Variations of Glaucoma. A. Magitot.—p. 49.
*Rubellar Embryopathy. J. L. Malbran and A. L. Norbis.—p. 56.
Treatment of Obstruction of Veins. H. M. Namo and H. Gofanovich Baron.—p. 70.

Rubellar Embryopathy.—Cataract, buphthalmus, and rubellar pigmented retinitis are serious malformations. They appear either alone or combined. Cataract is the most prominent symptom of rubellar embryopathy. It is bilateral in three out of four cases. It is frequently associated with microphthalmus, atrophy or coloboma of the iris, nystagmus, convergent strabismus, and opacities of the cornea. Buphthalmus is of great diagnostic importance when it is associated with a congenital cataract. As a rule, it is bilateral and often associated with papillary erosions. The intraocular pressure is moderately increased but can reach amounts as high as 100 mg. on the Schiötz tonometer. Rubellar pigmented retinitis can be differentiated from nonrubellar and other forms of retinitis. It occurs in unilateral retinitis or when the eye is aphakic after the operation. Other abnormalities such as coloboma of the choroid and opacities of the vitrium are less important. Rubellar nonocular malformations include deafness and cardiac malformations, the most frequent of which are the patent ductus arteriosus and abnormal communication between the ventricles or the auricles. Other abnormalities are dental malformations, microcephaly, hydrocephaly, mental disorders, inversion of the cycle of sleep, and *Franceschetti's digito-ocular sign, in which the infant* makes pressure on the eye with his thumb and index finger. Certain somatic and visceral malformations can also be observed. The authors report eight cases, seven in infants and one in a woman of 22 years of age. The mothers of these patients had rubella between the first and third months of pregnancy. Cataract was bilateral in four cases and unilateral in four. In the group of four patients with bilateral cataract, three had microphthalmia and one buphthalmus. Rubellar pigmented retinitis was observed in two cases of unilateral cataract.

Brain, London

76:149-336 (June) [Part 2] 1953

Investigation into Causes of Failure of Certain Supratentorial Meningiomata to Show Tumour Vessels on Angiography. G. Monckton.—p. 149.
Clinical Presentation of Cerebral Angioma: Review of 50 Cases. I. Mackenzie.—p. 184.
Megalencephaly Associated with Hyaline Pan-Neuropathy. L. Crome.—p. 215.
Electrical Methods in Diagnosis and Prognosis of Peripheral Nerve Injuries and Poliomyelitis. C. B. Wynn-Parry.—p. 229.
Ipsilateral Third Cranial Nerve Palsy as Presenting Sign in Acute Subdural Haematoma. E. S. Clark and W. Gooddy.—p. 266.
Cerebrospinal Fluid Pressure as Aetiological Factor in Development of Lesions Affecting Central Nervous System. J. E. A. O'Connell.—p. 279.
Creatine and Guanidoacetic Acid Metabolism in Muscle Disease. J. N. Cumings.—p. 299.
Experimental Study of Central Olfactory Connexions in Marsupial (Trichosurus Vulpecula). W. R. Adey.—p. 311.

British Medical Journal, London

2:109-162 (July 18) 1953

"With Head, and Heart, and Hand." J. W. T. Thomas.—p. 109.
Familial Idiopathic Methaemoglobinaemia Associated with Mental Deficiency and Neurological Abnormalities. C. Worster-Drought, J. C. White and F. Sargent.—p. 114.
Nature of Tic Douloureux: Treatment by Alcohol Block or Section of Great Auricular Nerve. R. Wyburn-Mason.—p. 119.
In-Patient Care of General Hospital Psychiatric Patients: Experience with 500 Cases. R. W. Crocket.—p. 122.
Serological Findings in Case of Haemolytic Anaemia with Some General Observations on Pathogenesis of this Syndrome. W. Weiner, D. A. Battey, T. E. Cleghorn and others.—p. 125.
Diagnosis of "Sedormid" Purpura. D. K. Grant.—p. 128.
An Outbreak of Trichiniasis in Barry, Glamorgan: Improved Technique for Demonstration of Trichinella in Muscle. A. D. Evans and M. Lennox.—p. 131.
Blood Pressure During Cardiac Massage in Man. D. C. Deuchar and A. Venner.—p. 134.
Drug Resistance in Malaria. T. C. Hallinan.—p. 135.

Chinese Medical Journal, Peking

71:163-240 (May-June) 1953. **Partial Index**

Starch Sponge—Hemostatic Agent: Further Studies on Its Preparation. J. K. Shen, C. Y. Sheng and W. T. Wang.—p. 167.
Use of Chinese Hamsters in Study of Mycobacterium Tuberculosis: 3. Comparative Study of Isolation of Tubercle Bacilli by Hamster Inoculation and by Culture. Chin Ch'i-Huan and W. Feng-Lien.—p. 176.
*Primary Carcinoma of Liver: Study of 19 Autopsied Cases. Y. Liu.—p. 183.
Charcot's Spine: Report of Two Cases. M. H. Tan and C. M. Meng.—p. 203.
Placenta Accreta: Report of Three Cases. T. Shueh-Ping and C. Mei-Pu.—p. 209.

Primary Carcinoma of Liver.—Liu discusses observations on 19 autopsied cases of primary carcinoma of the liver, which were observed among 2,424 autopsies on Chinese persons. Since this disease is regarded as commoner among oriental races than among Europeans or Americans, autopsy reports on all non-Chinese were disregarded as were autopsy reports on children less than two years old. The author believes that the difference in incidence is probably due to environmental *factors, more specifically, dietary habits, rather than to* any racial predisposition. Seventeen of the 19 cases were in men. Age incidence was highest between 40 and 60 years. Evidence obtained in this study supports the view that cirrhosis of the liver is an important predisposing factor in liver cell carcinoma. *Sixteen of the 19 patients had nodular cirrhosis,* and three had biliary cirrhosis. It seems probable that biliary cirrhosis is secondary to the obstruction of the biliary system. Pathological studies disclosed that 13 of the 19 patients had hepatoma, 3 had cholangioma, and 3 had "hepatocholangioma." In view of the common embryonic origin of both hepatic and bile epithelia, the presence of glandular structures in hepatomas is probably the result of divergency of cellular differentiation and thus the "hepatocholangiomas" need not be separately classified.

Journal of Endocrinology, London

9:251-350 (July) 1953. **Partial Index**

Fluorescence and Absorption Spectra of Oestrone, Oestradiol-17β, and Oestriol Compounds. E. H. Aitken and J. R. K. Preedy.—p. 251.
Antidiuretic Activity in Blood Obtained from Various Parts of Cardiovascular System. M. Ginsburg and H. Heller.—p. 274.
Clearance of Injected Vasopressin from Circulation and Its Fate in Body. M. Ginsburg and H. Heller.—p. 283.
Effect of Parathyroid Hormone on Phosphate Excretion in Rat. B. M. A. Davies and A. H. Gordon.—p. 292.
Clinical Trial of an Antithyroxine Compound. T. R. Fraser and N. F. Maclagan.—p. 301.
Effect of Storage on Potency of Preparations of Growth Hormone. E. Reid.—p. 329.
Estimation of ACTH in Human Pituitary Tissue. N. R. W. Taylor, J. A. Loraine and H. A. Robertson.—p. 334.
Function of Adrenaline in Production of Pituitary Adrenocorticotrophic Activity. J. R. Hodges.—p. 342.

Journal of Tropical Medicine and Hygiene, London

56:123-148 (June) 1953

Training and Employment of Auxiliary Personnel in Medical and Health Services in Tropical Africa. C. C. Chesterman.—p. 123.
Some Impressions, Past and Present, of Mice and Men and of Government Departments. M. Watson.—p. 133.
**Eight Cases of Acute Tetrachlorethane Poisoning. J. B. Sherman.*—p. 139.

Acute Poisoning with Tetrachlorethane.—Tetrachlorethane used as a solvent is one of the most toxic of the chlorinated hydrocarbons. The accident here reported was due to confusion with tetrachlorethylene, which it resembles not only in name, but also in odor, and to the fact that tetrachlorethane was not labeled "poison." Eight adults were given at 10:30 a. m. 3 ml. of tetrachlorethane (under the impression that it was tetrachlorethylene) plus 1 oz. (30 gm.) of magnesium sulfate and water. Three were inpatients, but the remainder went home. At 12 noon one inpatient suddenly became comatose. All superficial reflexes were absent, and the pupils were enlarged and fixed. The pulse was barely perceptible. Respirations were very shallow and rapid. The breath smelled of what was thought to be tetrachlorethylene. An enema was given and methedrine injections at 15 minute intervals. After about *half* an hour the patient regained consciousness but complained of headache. By this time, the other two inpatients were in deep coma, and similar treatment was being given them. Search for the ambulatory patients found them in various stages of semiconsciousness. All were brought back to the hospital, but after an hour they insisted that they were well. All were watched for three months, and no untoward effects could be detected. As the untreated patients recovered as rapidly as the treated ones, it seems that the treatment given had small effect. Perhaps the magnesium sulfate helped elimination via the bowel. In view of the fact that such dramatic results ensued after a dose of 3 ml., Sherman believes that 4 to 5 ml. would have been fatal. This agrees with Elliott's contention that 5 ml. is the lethal dose for an adult.

Lancet, London

2:99-148 (July 18) 1953

*Glucagon: Hyperglycaemic Glycogenolytic Factor of Pancreas. C. de Duve.—p. 99.
Prevention of Dust Diseases. A. I. G. McLaughlin.—p. 104.
Suxamethonium-Modified Electroconvulsive Therapy in the Frail and Elderly. G. I. Tewfik.—p. 110.
Major Venous Ligation in Treatment of Postphlebitic Sequelae. A. M. Boyd, B. N. Catchpole, R. P. Jepson and S. S. Rose.—p. 113.
Syphilitic Mediastinitis. H. M. Leather.—p. 116.
Cyanosis in Newborn Babies Caused by Aniline-Dye Poisoning. J. D. Pickup and J. Eeles.—p. 118.
New Rare Human Blood-Group Antigen (Wr^a). C. A. Holman.—p. 119.

Glucagon, the Hyperglycemic Factor of the Pancreas.—De Duve cites evidence that insulin is not the only endocrine principle secreted by the pancreas, but that the pancreas also contains a highly active and specific glycogenolytic polypeptide that originates in the alpha cells of the islets and that can act as a powerful insulin antagonist. He also gives evidence that an alloxan-resistant part of the pancreas, probably not the acinar tissue, secretes into the blood stream a substance that raises the blood sugar level, lowers the glycogen content of the liver, and decreases the effectiveness of insulin. The hyperglycemic factor of the pancreas was referred to in the early work as "glucagon," a name proposed by Kimball and Murlin in 1924. In some countries this term has been retained, but it has been superseded in much of the recent work by "hyperglycemic glycogenolytic factor," H.G. factor, or H.G.F. De Duve points out that Ferner suggested in 1951 that metabolic equilibrium is achieved by a balance between the two opposed pancreatic secretions insulin and glucagon; any large increase of one over the other leads to either spontaneous hypoglycemia or diabetes. An islet adenoma containing predominantly beta cells causes spontaneous hypoglycemia, and the destruction of the beta cells leads to diabetes. The diabetic state that follows the total removal of the pancreas, and its alleviation by hypophysectomy, can be partly explained on the basis of this concept, since active alpha cells remain in the gastric mucosa of dogs subjected to pancreatectomy and may be stimulated there by the growth hormone. Glucagon has become an important factor in considerations of the etiology of diabetes, and many concepts on the interrelationships between the endocrine glands will need to be revised in the light of the new knowledge. There is now a body of mutually confirming data indicating that glucagon is the long-sought hormone of the alpha cells of the pancreatic islets and that glucagon is involved in the physiological regulation of metabolism and, presumably, of growth.

Minerva Pediatrica, Turin

5:225-264 (April 15) 1953. **Partial Index**

Isoniazid in Therapy of Infantile Tuberculosis. P. Brusca and B. Carletti. —p. 225.
Influence of Corticotropin on Phosphorus in Blood and Alkaline Phosphatase in Infancy. M. Gomirato Sandrucci.—p. 229.
*Tuberculous Meningitis Developing During Streptomycin Therapy That Cured Tuberculous Pericarditis. G. Aceto.—p. 257.

Tuberculous Meningitis After Recovery From Tuberculous Pericarditis.—Tuberculous meningitis occurred in an 8-year-old boy who had recently recovered from tuberculous pericarditis. The father, 32 years old, had been cured of pulmonary tuberculosis the year before. Besides the diseases of childhood, the child had suffered a tuberculous cervical adenitis at 12 months and a tuberculous coxitis cured without streptomycin at 16 months. At admission the child was in poor general condition with a history of evening fever, vomiting, and dyspnea of eight days' duration. Chemically the urine was normal, but microscopic examination revealed numerous calcium phosphate crystals. The tuberculin reaction was slightly positive. Radioscopy of the chest revealed exudative perilymphadenitis on the left side. Telecardiograms and electrocardiograms showed exudative pericarditis and an enlarged heart. Three successive pericardicenteses two days apart yielded 360 cc. of exudate. At the same time streptomycin was introduced into the pericardium (0.30 gm. in three times), and the boy was given calcium, vitamins, and *p*-aminosalicylic acid. Microscopic examination of the exudate revealed a predominance of lymphocytes with a small number of erythrocytes; staining revealed tubercle bacilli. Roentgenograms taken 24 hours after the last pericardicentesis showed that the heart had diminished to half its initial size. Two weeks later intrapericardiac exudate was no longer present. The boy was euphoric, could sit up, and had gained 400 gm. in weight. Systemic streptomycin therapy was continued despite this recovery. On the 13th day of therapy the child complained of a mild headache, which became severe during the night. A mild nuchal rigidity, cerebral vomiting, and frank anisocoria also appeared. Both Brudzinski's signs being positive, spinal fluid was withdrawn, and a diagnosis of tuberculous meningitis was confirmed. Streptomycin was given daily by the lumbar, cisternal, and intramuscular routes according to Cocchi's schedule and was combined with administration of *p*-aminosalicylic acid, vitamin A, and cardiokinetic drugs. The boy's general condition became worse; generalized tonic and clonic convulsions, cyanosis, bradycardia, and alternating mydriasis and miosis developed, and the patient died four days later. According to the author, the primary focus was in the pulmonary parenchyma, probably on the left side, and the lymphadenitis, coxitis, pericarditis, and meningitis were all episodes of hematogenous dissemination of the condition.

Münchener medizinische Wochenschrift, Munich

95:717-740 (June 26) 1953. **Partial Index**

"Manager's Disease" and Protection of the Health of Intellectual Workers. O. Graf.—p. 717.
Functional Restoration of Atrophic Musculature. T. Hettinger.—p. 724.
*Therapy of Hypertension with Hydrazinophthalazine Preparations. P. Kummer and R. von La Rosée.—p. 729.

Hypertension: Treatment with Hydrazinophthalazine Preparations.—Kummer and von La Rosée present their experiences with phthalazine derivatives in 32 patients with hypertension. Instead of the widely used hydralazine hydrochloride (Apresoline), they used mostly Nepresol (1,4-dihydrazinophthalazine). They preferred this latter preparation, because they became convinced that it had a somewhat more subdued and protracted effect than hydralazine and that it was tolerated better. The preparation was used in 32 patients, including 19 with essential hypertension, 2 in whom the hypertension led to nephrosclerosis, 3 with malignant sclerosis, 2 with pyelonephritis, 4 with chronic nephritis, and 2 with pregnancy nephropathy. These patients were first subjected to general measures, such as bed rest, salt-free diet, barbiturates and strophanthin, and then treatment with the phthalazine preparation was begun. It was found that when the medication with the phthalazine had been suitably individualized, about two-thirds of the patients showed a satisfactory reduction in blood pressure. The maximal reduction in systolic pressure was 80 mm. Hg and in diastolic pressure up to 40 mm. Hg. The blood pressure reducing effect was more extensive, the higher had been the pulse pressure before treatment and the lower had been the values for the elasticity coefficient and the peripheral resistance to circulation. The pulse pressure regularly decreased under the influence of the drug. The elasticity coefficient and the resistance did not show uniform behavior but in general showed a tendency to increase. The clinical changes indicated that the regulatory centers in the central nervous system had been acted on by the drug, possibly by a centrally regulated increase in venous stasis. The reduction in the blood flow of the kidneys was relatively slight in comparison with the reduction in the pulse pressure, and this probably explains why signs of renal insufficiency rarely increased. This occurred only in patients who already had renal decompensation. The undesirable secondary effects resulting from the Nepresol consisted mostly of headache, blurred vision, visual disturbances, vertigo, and palpitation. Electrocardiographic studies on patients with signs of stenocardia showed reductions in the ST deflection and flattening of the T-wave. Most secondary effect could be controlled with antihistamines and other measures. The authors conclude that the phthalazine derivative, Nepresol, is the preferred drug in the treatment of hypertension.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

79:1577-1676 (June 20) 1953. Partial Index

*Cortisone in Treatment of Dermatitis Caused by Gold Therapy. S. A. den Oudsten and M. van Schouwen.—p. 1583.
*Case of Aplastic Anemia (Panmyelophthisis or Pancytopenia) Following Prolonged Use of Chloramphenicol (Chloromycetin). M. Koster and J. Groen.—p. 1590.
Determination of Bleeding Time. S. I. de Vries.—p. 1595.
Natural Cowpox in Man. F. de Stoppelaar.—p. 1602.

Cortisone in Treatment of Gold Dermatitis.—Den Oudsten and van Schouwen present histories of two patients who received gold treatment for rheumatoid arthritis. In the course of this treatment severe cutaneous, erythematosquamous eruptions appeared. There was severe itching and some ulceration. Under the influence of cortisone treatment the skin eruption subsided. The advantage of cortisone over dimercaprol (BAL) is that cortisone does not mobilize and promote the excretion of gold. Thus the gold remains in the body and exerts its antirheumatic effect, after the dermatitis has been counteracted.

Fatal Aplastic Anemia After Prolonged Treatment with Chloramphenicol.—A 56-year-old man had, for about 12 months, been taking daily a small dose of chloramphenicol. He had taken the drug on his own initiative to counteract his "smokers cough." When cutaneous hemorrhages developed, he asked medical advice, and pancytopenia was diagnosed. Despite various therapeutic methods, including blood transfusions and cortisone and corticotropin to counteract the pancytopenia, the patient died. The authors point out that this serious complication of chloramphenicol treatment has been repeatedly observed, particularly, when use of the drug was not actually indicated.

Presse Médicale, Paris

61:901-940 (June 24) 1953. Partial Index

*Cirsoid and Arteriovenous Aneurysms of the Brain (19 Cases). Anatomical, Clinical, and Radiological Considerations. D. Petit-Dutaillis, G. Guiot and H. Berdet.—p. 901.
Diagnosis and Treatment of Malignant Tumors of Kidney in Children. R. Huguenin and R. Gérard-Marchant.—p. 909.
*New Technique for Bronchography: Lipiodol Vaporization. J. Girard, J.-P. Grilliat, R. Senot and P. Faucompre.—p. 914.

Cirsoid and Arteriovenous Aneurysms of the Brain.—Cirsoid aneurysms, which are vascular malformations characterized by a rarity or absence of capillaries and by extensive multiple communications between their arterial and venous elements, should be distinguished from arteriovenous aneurysms, in which the intervascular communication is either direct or takes place through an abnormal arteriolar tuft or a small area of telangiectasis. Transitional forms are numerous, and the surgical problem presented varies in each case according to the type of the lesion. Increasing use of arteriography at the Clinique de la Pitié led to the discovery of 18 cases in the last four years; of these, 16 were supratentorial. Clinical symptoms are noncharacteristic, but the presence of an aneurysm should be suspected when a patient has attacks of focal epilepsy, either alternating with or accompanied by meningeal hemorrhage. Five of the patients in this series also had angiomas of the skin or mucous membrane. Signs of spontaneous cerebral hematoma in a young patient likewise suggest the existence of an aneurysm; arteriography in such cases will establish the diagnosis by showing both the aneurysm and the hematoma, which is evidenced by displacement of the anterior cerebral artery or the sylvian artery. Thorough arteriographic study of these lesions is essential for both correct diagnosis and successful surgical treatment.

New Technique in Bronchography: *Lipiodol* Vaporization.—Iodized oil (Lipiodol) vaporization eliminates or reduces many of the difficulties formerly encountered in bronchography. Complete saturation of the bronchial tree is obtained by using a mixture of one-third heavy iodized oil in a 40% concentration with two-thirds fluid iodized oil (Lipiodol "F") also in a 40% concentration. The patient is given 20 cg. of phenobarbital (Gardenal) and ¾ mg. of atropine 15 minutes before anesthesia is started; a small dose of an opiate or an antihistamine may also be useful in some cases. Anesthesia, which need not be deep, is induced with 0.5% tetracaine (Pantocaine), often by the nasal route. A special double-tube catheter is then introduced through either the mouth or the nose, and the iodized oil mixture is vaporized as needed (6 cc. will saturate one lung); complete saturation is obtained by a series of postural changes during vaporization, which lasts three minutes at the most; and the films are taken at once. The fine layer of iodized oil deposited shows all the bronchial contours and brings out even the slightest anomalies in the mucosa. The small amount of the mixture used facilitates its rapid elimination from the lungs and permits its use even in patients with active tuberculosis. This method may be used for aged patients and those in poor condition. It does not cause shock, and the toxic effects of the iodine are reduced. The ventilatory capacity of the lungs is maintained throughout the procedure, and no complications have accompanied its use so far.

Progrès Médical, Paris

81:177-208 (April 24) 1953. Partial Index

Treatment of Gout. F. Coste.—p. 179.
Respiratory Infections in Genesis of Rheumatism. J. Turiaf.—p. 184.
Cellulitis. F. Françon.—p. 191.
*Use of Hydrocortisone in Present Rheumatological Practice. A. Rubens-Duval.—p. 193.

Use of Hydrocortisone in Rheumatic Conditions.—Hydrocortisone acetate given intramuscularly in chronic progressive polyarthritis is slightly less effective than cortisone but has the advantage of not causing salt or water retention or psychic disturbances. Alcoholic hydrocortisone given orally, on the other hand, is superior to cortisone given orally in the same doses. Improvement not only comes earlier, but is more complete and is entirely free from disagreeable side-effects. Maintenance doses may also be much smaller (approximately 40 mg.). These differences in action may be explained by differences in the solubility of the drugs in plasma. Alcoholic hydrocortisone is four times as soluble as cortisone and 28 times as soluble as hydrocortisone acetate; its diffusibility is, therefore, greater, and this explains the rapidity and efficacy of its therapeutic action. Hydrocortisone acetate, because it is less soluble and does not spread so rapidly, is especially useful in the local treatment of inflammatory joint reactions. Intra-articular injection of 25 mg. will often be followed within 12 to 24 hours by diminution of the local inflammatory phenomena, especially pain, permitting wider mobilization of the joint. The improvement usually lasts for four or five days. Habituation does not occur, and each new injection is followed by relief. Functional results depend largely on the condition of the joint; prognosis is poorer when fibrosis is present, but relief of pain facilitates movement and makes physiotherapy possible. Hydrocortisone therapy of chronic progressive polyarthritis is limited by the need for repeated injections and the number of joints requiring treatment; it should be used chiefly to overcome residual articular inflammation resistant to general therapy, to secure mobilization of a stiff joint, to correct malposition, or to make it possible to reduce cortisone dosage in patients with impending metabolic disturbances caused by therapy. Hydrocortisone has given excellent results in other forms of arthritis and in arthroses of the knee and shoulder. Rigorously aseptic technique must be used in injecting the drug, and in some cases antibiotics should be used to lessen the danger of reactivating an infectious process.

BOOK REVIEWS

Toxic Hazards of Certain Pesticides to Man. By J. M. Barnes. Together with select bibliography on toxicology of pesticides in man and mammals. World Health Organization, monograph series no. 16. Paper. $1.50; 7/6; 480 French francs; 6 Swiss francs. Pp. 129. World Health Organization, Palais des Nations, Geneva; Columbia University Press, 2960 Broadway, New York 27, 1953.

This small volume is the formal report of an international study undertaken by the author on behalf of the World Health Organization, of chemicals used in agriculture and public health activities that present a clear and immediate danger during manufacture, application, or when present as residue on food. The report itself comprises only one-third of the volume; the remainder is composed of an extensive bibliography and appendixes on toxic properties, nomenclature, and legislative control of agricultural chemicals in North American and several European countries. The report is divided into several sections, including discussions on the use of pesticides in disease control and crop protection; hazards and their control during application, in manufacture, and to those not directly involved with handling of the agents; suggestions and recommendations for research; and general conclusions. The report is well written and may be of value as a reference source to public health officials and others concerned with the toxic hazards to man of pesticides.

Tumors of the Orbit and Allied Pseudo Tumors: An Analysis of 216 Case Histories. By Raymond G. Ingalls, M.D. Cloth. $11.50. Pp. 410, with 140 illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Illinois; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

This book consists of an analysis of data obtained from the study of 216 orbital tumors, of which there were 27 types classified into three main groups: primary, secondary invaders, and tumor-like lesions. The greater part of the data is derived from photographs, biopsy specimens, and case histories of orbital tumors originally assembled for exhibition at the 1947 meeting of the American Academy of Ophthalmology and Otolaryngology. The exhibit illustrated the important features of orbital tumors with pictures of the patient with unilateral exophthalmos, case histories, microscopic description of the tumor, and the end result. For each tumor the author describes the etiological factors, anatomic locations, shape, consistency and color, symptoms, amount of limitation of ocular motility, and relationship between the visual acuity, exophthalmos, and fundus changes. By means of certain statistical tables, one of which is entitled "Age Factor in Orbital Tumors," the ophthalmologist is given considerable help in differential diagnosis of orbital tumors. In the chapter on pseudo tumors, the author very properly points out that the removal of the entire mass not only is undesirable but may result in the loss of considerable muscle tissue with later serious limitation of motility. In view of this untoward result it is now the practice to limit the excision to biopsy proportions only.

By including reports from the recent literature as a supplement to each chapter, the author is able to keep his book up-to-date. From the standpoint of readability, the book is very well arranged, the quality of paper is excellent, and the type is large and well set. The arrangement of photographs and charts is also well done. All of these factors make for easy and smooth reading. Whether the ophthalmologist is associated with a large private institution, a large charity clinic, or in the private practice of ophthalmology, this book will be of inestimable value to him when he meets the patient with unilateral exophthalmos.

Sectional Radiography of the Chest. By Irving J. Kane, M.D., Consultant in Chest Diseases, United States Naval Hospital, St. Albans, N. Y. Foreword by Edward D. Churchill, M.D. Cloth. $7.50. Pp. 154, with 101 illustrations. Springer Publishing Company, Inc., 44 E. 23rd St., New York 10, 1953.

In the 20 years since the work of Ziedses des Plantes, planigraphy has come to occupy a small but important place as an adjunct to ordinary radiography in detecting and localizing cavities in the lungs. Dr. Kane, an internist specializing in diseases of the chest, obviously draws on a large clinical experience for his discussion of thoracic anatomy and pathology as portrayed by planigrams or, as he prefers to call them, sectional radiographs. All of his 80 reproductions are of good quality, and there is a useful bibliography of 180 items.

In pages 35 to 41 the author deals with technical matters in which he appears to be less well informed, and his figures 8A and 10A of page 41 embody important errors. It is true that almost any commercial exposing table and tube stand can be modified to do planigraphy, and it is true also that it is not essential to tilt the tube if one is willing to use a sufficiently short tube-film travel and a sufficiently large tube cone. It is a simple matter to tilt the tube, however, and it is highly desirable to use the smallest cone that will cover the film to assure minimum blurring by scattering and minimum unnecessary irradiation of the patient's tissues. In the two figures referred to above, the artist has shown a tube-film travel obviously much larger than that actually employed by Dr. Kane in making the respective planigrams. Radiologists will understand the point and not be misled by the figures, but other physicians who, having read this book, were to decide to equip themselves to do planigraphy would be disappointed if they tried to follow the plan outlined in these figures. Those who do planigraphy would be well advised to employ commercial rather than homemade equipment, to tilt the tube, and to use small rectangular cones that barely cover the film.

Clinical Orthopaedics. Number One. Anthony F. DePalma, editor-in-chief. With assistance of five associate editors and board of six advisory editors. Cloth. $6; sustaining $5. Pp. 242, with 149 illustrations. J. B. Lippincott Company, 227-231 S. Sixth St., Philadelphia 5; Aldine House, 10-13 Bedford St., London, W.C.2; 2083 Guy St., Montreal, 1953.

This work is designed for the publication of original articles dealing with orthopedics and is sponsored by the Association of Bone and Joint Surgeons. The editor believes there is a need for additional outlets for material of orthopedic interest. He feels that the existing journals cannot publish much of the worthy material because of a lack of space. As a result of this, these works are published in journals dealing primarily with general surgery and are therefore lost to those to whom they would be of most interest. The sponsors of this work hope that they can provide a publication whereby this material can be disseminated not only to the orthopedic surgeon but also to those who are in ancillary specialties, and particularly to the general practitioner. At present, two issues a year are contemplated. These are essentially divided into two parts; the first is devoted to the consideration of a specific topic, and the second will contain miscellaneous articles dealing with orthopedics and allied subjects. Section 1 of this volume deals with children's orthopedics and section 2 with general orthopedics. Special commendation should be given those articles that consider infantile scurvy, structural scoliosis, and treatment of poliomyelitis based on pathophysiology. The format of this number is good, the figures have reproduced well, and a good-sized type placed in double column makes for easy reading. This work can be recommended to anyone interested in orthopedics and associated topics.

These book reviews have been prepared by competent authorities but do not represent the opinions of any official bodies unless specifically so stated.

Tumors of Bone: A Roentgenographic Atlas. By Bradley L. Coley, M.D., F.A.C.S., Attending Surgeon, Bone Service, Memorial Center for Cancer and Allied Diseases, New York, and Norman L. Higinbotham, M.D., C.M., F.A.C.S., Associate Attending Surgeon, Bone Service, Memorial Center for Cancer and Allied Diseases. Annals of Roentgenology, Volume XXI. Cloth. $10. Pp. 216, with 172 illustrations. Paul B. Hoeber, Inc. (medical book department of Harper & Brothers), 49 E. 33rd St., New York 16, 1953.

Continuing a policy laid down by the publisher many decades ago, this volume attempts to be at once a monograph and an atlas describing and illustrating some of the more important skeletal neoplasms and certain non-neoplastic lesions that simulate them. However useful it may have been to supply the physicians of an earlier generation with sample radiographs of proved cases of various diseases, certainly the approach has been outmoded and is not what one expects to find in a present-day book on bone tumors.

The introduction quite properly stresses the fact that radiology and gross and microscopic pathology cooperate rather than compete in the diagnosis of bone tumors. Unfortunately, however, there is no discussion of terminology, so that in the 73 pages dealing with primary malignant neoplasm one has only the arrangement of the material to indicate just what conditions the authors intend to include under specific headings; for example, the inclusion of figure 8 among the osteogenic sarcomas suggests that the authors consider fibrosarcoma to be a subdivision of osteogenic sarcoma, but presumably case 23 (osteoid osteoma) was included among the osteogenic sarcomas merely for comparison.

Figure 21 and the statement on page 4 relative to osteogenic sarcoma developing in myositis ossificans may lead readers to the erroneous and dangerous conclusion that the acute traumatic myositis ossificans that is rather frequently encountered in the thigh muscles of young football players is a potential source of osteogenic sarcoma.

Lacking are discussions of tumor bone versus reactive bone; the role of Sharpey's fibers in producing the "sunburst" pattern, long misinterpreted as typical tumor bone; and the necessity and safety of taking large biopsy specimens. In the discussion of metastases no reference is made to the tendency of those from osteogenic sarcoma to produce bone, and the legend for figure 26 might be misinterpreted as indicating that spherical pulmonary metastases are peculiar to osteogenic sarcoma. In the legend for figure 62 the authors doubt the possibility of clinical cure in solitary plasma cell myeloma, but such cases are mentioned in the literature. The book includes several illustrations of osteoid osteoma, but the authors do not describe the gross lesion or refer to the central dense fleck that is occasionally seen at the center of the negative shadow. In the legend for figure 99 the authors are correct in stressing the unlikeliness of malignant degeneration in benign enchondroma of the finger bones, but such degeneration does sometimes occur. The authors are competent and experienced, but 200 pages are too few and the atlas form is ill suited to the task they undertook. They would have produced a better book if they had narrowed the field so that they might deal more exhaustively with a few types of bone neoplasm.

Nervous Transmission. By Ichiji Tasaki, M.D. Cloth. $7.50. Pp. 164, with 77 illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

An especially interesting chapter in this book explains the techniques now used to study the electrical phenomena in single motor nerve fibers. These experiments lead to reconsideration of the idea of decrement conduction in narcotized fibers, which has inspired much research, and to further elaboration of the idea of saltatory transmission from one node of Ranvier to the next. The supposed absence of these nodes in the myelinated fibers of the brain and cord formerly posed a difficulty, which has been removed by recent reports of their presence at least in the spinal cord.

The text makes good reading in places where the material is concrete and "operational" but becomes difficult, sometimes unnecessarily so, in the abstract and mathematical portions. The difficulty is occasionally traceable to words like "nonlinear" (page 149), for the ambiguity of which the modern mathematician is to blame. The reader is not always sure that the author intends to make apparent distinctions, such as that between potential difference and electromotive force (page 146). If the conscientious student notes that proper names are capitalized, as in Wheatstone bridge (page 8), what is he to deduce from the spelling "ringer fluid" (page 9)? In view of the long-continued deprecation of eponymic phrases like sheath of Schwann, the student wonders why the author does not write neurilemma. Obscurities of this sort are so frequent in the scriptures of axonology and mathematical biophysics as to justify the question whether they are intended to be understood or just to impress. An individual author therefore is perhaps not to blame for compromising between clarity and tradition. The bibliography is accurate, and the index has been carefully prepared. The book will be important to students and teachers of neurophysiology.

Statistical Methods in Experimentation: An Introduction. By Oliver L. Lacey, Professor of Psychology, University of Alabama. Cloth. $4.50. Pp. 249, with 33 illustrations. The Macmillan Company, 60 Fifth Ave., New York 11, 1953.

This compact and attractive book is intended as an introduction to the subject for students who have completed a semester of college algebra. Its best feature is a remarkable collection of problems from physiology, anthropometry, psychology, industry, and even politics, which cannot fail to impress students with the importance of the subject and the diversity of forms in which statistical problems present themselves.

Diseases of Children. Volumes I and II. Edited by Alan Moncrieff, C.B.E., M.D., F.R.C.P., Nuffield Professor of Child Health, University of London, England, and Philip Evans, M.D., M.Sc., F.R.C.P., Physician to Children's Department and Director of Department of Child Health, Guy's Hospital, London. With contributions by fifty contributors. Previous editions edited by Sir A. E. Garrod, K.C.M.G., D.M., F.R.S., Frederick E. Batten, M.D., M.A., F.R.C.P., Hugh Thursfield, D.M., M.A., F.R.C.P., and Donald Paterson, M.D., F.R.C.P. Fifth edition. Cloth. $21 per set. Pp. 1014; 1015-1973, with 690 illustrations. [Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2]; Edward Arnold & Co., 41-43 Maddox St., London, W.1, 1953.

This book is the fifth edition of Garrod, Batton, and Thursfield's pediatric textbook. The present edition, capably edited by Moncrieff and Evans, contains contributions of 50 highly qualified authors drawn from both Britain and America. The text appears to represent an attempt to accomplish as complete coverage of the field of pediatrics as is possible without providing an exhaustive review of pediatric literature. Since the last edition was published, in 1947, the book has been brought up-to-date and altered to meet demands of an expanding field. That emphasis has been placed on progress is signaled by the introduction of completely new chapters on growth and development, causes of congenital malformations, use of drugs in pediatrics, pediatric endocrinology, and congenital heart disease, as well as the extensive revision of most of the other chapters. The text is well illustrated.

The two volumes are divided into three main sections. The initial subdivision contains nine chapters and deals with general considerations basic to the skillful, scientific care of children. This section contains chapters on vital statistics, heredity, causes of congenital malformations, growth and development, water and electrolyte control and acid base regulation, clinical pathology, drug therapy, anesthesiology in infancy, and infant feeding. The chapters in this section, in general, are concise, factual, and up-to-date. The entire section provides a good background for a departure into pediatrics.

The second section is divided into 28 chapters and occupies most of the book. It is devoted to the description of diseases of children and their management. The final section is an appendix in which numerous practical pediatric procedures are described. With the aid of 30 good illustrations, the techniques of blood letting, infusion, exchange transfusion, bone marrow aspiration, collection of urine, and many other useful pediatric procedures are lucidly presented. The index, though not outstanding, is adequate. As a textbook of pediatrics for students and as a rapid reference book for pediatric practitioners this edition compares favorably with the best of the current American textbooks of pediatrics.

Nomenclature and Criteria for Diagnosis of Diseases of the Heart and Blood Vessels. By Criteria Committee of New York Heart Association, Inc., Harold E. B. Pardee, M.D., Chairman. Fifth edition. Cloth. $4.95. Pp. 359, with 51 illustrations. New York Heart Association, Inc., 270 Park Ave., New York 17; distributed by American Heart Association, 1775 Broadway, New York 19, 1953.

This edition deals with the nomenclature and classification of heart diseases and is supplemented by discussions of criteria for diagnosis. It has been considerably expanded to include a section on diseases of the peripheral vessels. It introduces changes of opinion and viewpoints that have taken place in the past 10 years. Important etiological factors in cardiac disease have been amplified. The criteria for the diagnosis of congenital anomalies have been greatly expanded. The therapeutic classification, which proved so beneficial in former editions, has been continued. The roentgenological and electrocardiographic sections have been rewritten and new material added. The criteria for the pathological diagnosis of diseases of the heart and great vessels has been made an integral part of the book instead of an appendix as it was in previous editions. The terminology and coding in the section on nomenclature correspond completely with the Standard Nomenclature of Diseases and Operations.

This edition is an estimable guide to cardiologists and clinicians dealing with heart diseases. It is an excellent reference book for all medical record libraries and should be extremely valuable for teaching hospitals. The book is well printed, and the illustrations are clear.

Annual Review of Medicine. Volume 4. Windsor C. Cutting, editor; Henry W. Newman, associate editor. Cloth. $6. Pp. 452. Annual Reviews, Inc., Stanford, California; H. K. Lewis & Company, Ltd., 136 Gower St., London, W.C.1; Maruzen Company, Ltd., 6 Tori-Nichome Nihonbashi, Tokyo, 1953.

This book differs from previous editions in that it includes the writings of a number of international authorities who present thoughtful and readable presentations of advances made in their special fields. The topics selected for discussion will have a wide range of appeal to many readers who will find much useful information under such headings as infectious diseases, cardiovascular and gastrointestinal diseases, respiratory diseases, nutrition, hematology, diseases of the nervous system and psychiatry, anesthesia, radioactivity, toxicology, dentistry, public health, and physical agents and trauma.

Stress and Disease. By Harold G. Wolff, M.D., Professor of Medicine (Neurology), Cornell University Medical College, New York. Publication number 166, American Lecture Series, monograph in Bannerstone Division of American Lectures in Physiology. Edited by Robert F. Pitts, M.D., Ph.D., Professor of Physiology and Biophysics, Cornell University Medical College. Cloth. $5.50. Pp. 199, with 38 illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

Many years ago there was a popular ditty that began like this: "Every little movement has a meaning all its own; every thought and feeling by some action may be shown." This common sense idea has been known to every good physician since the days of Hippocrates. Unfortunately it has recently been rediscovered and exploited by some medical showmen under the name of psychosomatic medicine, but the author of this book does not commit this error. This monograph attempts to portray the role played by the environment in modifying a wide variety of diseases. It also relates these modifications to the person's life history, particularly to those situations which have been, consciously or unconsciously, stress producing. It is, in effect, a compilation of some aspects of psychosomatic medicine although the author avoids the use of this term.

Most of the experimental work cited has been done by the author and many colleagues. It covers a large number of medical disorders, ranging through several organ systems, with special emphasis on the gastrointestinal tract, the circulatory system, the nervous system, and the skin. It contains several graphs, all of which are clear. Two figures that illustrate temporal artery pulsations seem to require reading from right to left, although this is not so stated.

The English style in parts of the book is somewhat obscure; for example, on page 34 is the sentence: "However, the investigations on man reported herewith show how radically form and function of structures may change during long standing yet even amazingly brief periods of strain."

Internists, general practitioners, and medical students would derive some stimulation from this volume although there are places where Dr. Wolff may have let his conclusions outrun his facts. There is a good bibliography, author index, and subject index.

Contact Dermatitis. By George L. Waldbott, M.D., F.A.A.A., F.A.C.A., Senior Physician, Harper Hospital, Detroit, Michigan. Publication number 133, American Lecture Series, monograph in Bannerstone Division of American Lectures in Dermatology. Edited by Arthur C. Curtis, M.D., Chairman, Department of Dermatology and Syphilology, University of Michigan, Ann Arbor. Cloth. $8.75. Pp. 218, with 131 illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Avenue, Springfield, Illinois; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

Dr. Waldbott's plan of a profusely illustrated book with explanatory text was excellent in conception. The book has a large number of illustrations that were selected especially to demonstrate the value of studying the configuration of a contact dermatitis, for frequently the shape of an eruption will in itself point to the causative factor. There are over 131 illustrations of eruptions, many of which are most unusual, such as finger-tip dermatitis from a push button or telephone dial, and finger-band eruption from luggage, balls, or oranges. There is a large variety of patterns, for apparently the number of potential irritants encountered in every-day living is amazing.

The text, however, falls short of being the incisive work that might have been made of such interesting subject matter. The writing is repetitious, the material too often not pertinent to the subject, and in many cases the material is inaccurate. Such a statement as "the hemogram readily establishes the diagnosis of mycosis fungoides" (it is the histological picture on which the diagnosis is based) tends to destroy confidence in the book. But the illustrations and the various lists of cutaneous and occupational hazards are so useful as to make one wish that the text was more reliable and to hope that these weaknesses will be removed if the volume undergoes revision.

The Roentgen Aspects of the Papilla and Ampulla of Vater. By Maxwell H. Poppel, M.D., F.A.C.R., Professor of Radiology, New York University Post-Graduate Medical School, New York, Harold G. Jacobson, M.D., F.A.C.R., Director, Department of Roentgenology, Hospital for Special Surgery, New York, and Robert W. Smith, M.D. Cloth. $8.50. Pp. 195, with 106 illustrations. Charles C Thomas, 301-327 E. Lawrence Ave., Springfield, Illinois; Blackwell Scientific Publications, Ltd., 49 Broad Street, Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

The authors set up criteria for the appraisal of the normal or abnormal major papilla and the ampulla of Vater and discuss the region of the Vaterian segment and surrounding organs. There are 83 illustrations from experimental studies of the major and minor papillae and 58 other excellent figures showing radiological findings and anatomic diagrams. Normal and abnormal papillae are well described and illustrated and are critically analyzed in an interesting manner.

The authors point out that the major papilla can be seen in one or more films of an ordinary gastric series showing the duodenum in about 50% of cases. No special technique and no unusual positions are required. As the authors state, "All that was necessary was a careful scrutiny of the Vaterian segment of the duodenum." There is good discussion of the embryology and physiology of the Vaterian segment. Congenital variations are graphically described, and associated pathological conditions are emphasized. The book is interesting and practical.

QUERIES AND MINOR NOTES

BRITTLE DIABETES

To the Editor:—*Please discuss the condition referred to as brittle diabetes in which there is marked fluctuation in the fasting blood sugar from day to day while the patient is on the same diet and same dosage of insulin.*

Frank C. Golding, M.D., El Paso, Texas

Answer.—Brittle diabetics, a term coined by Woodyatt, includes those diabetics who exhibit wide variations in glycosuria and glycemia without obvious causes, such as variations in the composition and absorption of the diet, exercise, insulin, and infections or alterations in the activity of the pituitary, thyroid, adrenal, or liver. The more accurately and critically the diabetic is studied, the less frequently such cases are encountered. They are, if anything, even less frequent than the 2% observed by Haunz (*J. A. M. A.* **142**:168 [Jan. 21] 1950) among 310 diabetics during a period of two years. Other recent references include those of Colwell (*Pennsylvania M. J.* **52**:1638, 1949), Lamar (*J. A. M. A.* **142**:1350 [April 29] 1950), and Baker and Colwell (*Proceedings of the American Diabetes Association* **8**:39-54, 1948). When Rollo in 1796 learned Captain Meredith had been exposed to apple pie the night preceding an unexplained finding of sugar in the urine, when Cantani forcefully demonstrated that his patients when under lock and key and fed 600 gm. of meat were sugar free, and when Bouchardat taught his patients that, if they found a food produced glycosuria by their own tests of their urine after eating it, that food contained too much carbohydrate for them, the explanation of most brittle diabetics was solved. The term brittle diabetes, like that of acute fulminating diabetes, will probably gradually drop out of the literature.

Scrupulous accuracy in computing the diet and uniformity in its absorption are far more difficult to attain today than formerly. Diets are now much larger and often contain more calories than required, and consist of much more carbohydrate in total grams, in variety, and in higher percentages. The estimation of the effect of exercise is less easy because the patients are no longer bedridden but are active; also, the exercise is more variable. Insulin greatly complicates the picture, because of errors in its measurement resulting from different strengths and varieties, technique of administration, absorption because of faulty injection in one site rather than in separate sites each day of the month and especially by injection into areas of lipodystrophy (fat hypertrophies and atrophies).

Tendencies to brittleness may be expected particularly in the young, the thin, the active, emotionally or otherwise, the uncooperative patient or the discouraged patient who has become careless and often thoughtlessly breaks regulations. Children, severe, and thin diabetics have a low storage capacity for glycogen. Variations, therefore, in total food, carbohydrate, exercise, and insulin lead to a more prompt response in the blood sugar, because the glycogen reserve is so low. Might it not often be 50 rather than 300 grams? The total fasting sugar in the blood of an adult weighing 70 kg. is less than 7 gm. (7,000 cc. blood × 0.1%) and in a child of 35 kg., 3.5 gm., or the equivalent of a small lump of sugar. The wonder is that the carbohydrate stored as glycogen and sugar in health and especially in diabetes can be so well controlled, especially when dependent on an artificial supply of insulin. Furthermore, as a rule only about 10 gm. of carbohydrate are oxidized an hour, a larger quantity usually being deposited either as glycogen or more likely converted into fat, thus adding to the complexity of the picture. For all these reasons it is probable that a standard caloric diet suited to the metabolic needs of the patient, containing about 150 gm. of carbohydrate, or even 100 gm. in a very small person, will lead to less variations in the blood sugar than one with 200 gm. or more. Adjustments must be made for exercise.

Insulin usually will be required at least twice a day, preferably NPH before breakfast and the evening meal, with additions to it of crystalline insulin as needed, morning and night. To remove apprehension, the patient can at first supplement the diet with carbohydrate in the forenoon, afternoon, and evening and in extreme cases 3 to 5 gm. an hour when the clock strikes, just as Sippy taught his ulcer patients to take their milk and cream at short intervals. Quantities of food can be increased easily, if exercise is increased. After the patient gains confidence, the administration of diet can be simplified. All agree that in such cases the three meals and three lunches should be spread over at least 12 hours, and one author even suggests that six injections of crystalline insulin be employed. Generally, two injections of NPH insulin with or without added crystalline insulin will suffice, along with careful adjustment of diet to the four daily tests of the urine. Lamar writes, "It is obvious that the neglect of a single detail in the instruction of these patients has made a great difference in their lives."

ATHLETES WITH DEFECTIVE VISION

To the Editor:—*I would like an opinion on the eligibility of high school boys for contact sports who have severe eye defects. Such defects include (1) a condition in which all vision has been lost in one eye but is normal or nearly so in the other eye and (2) a case in which vision is 20/100 in both eyes without glasses, and, as in football, protectors are not practical, and the boy apparently plays satisfactorily without glasses.*

M.D., New York.

This inquiry was referred to two consultants whose respective replies follow.—Ed.

Answer.—Reasonable caution would seem to suggest that a boy who has lost the vision of one eye should not play football. The resulting loss of peripheral vision and depth perception would be a considerable handicap and increase the probability of injury. The possibility of injury to and even loss of the other eye must also be given consideration. While a plastic face protector attaching to the headgear is now available, it provides no guarantee against eye injury. It affords some protection against blows, but small objects can penetrate the opening left to allow for clear vision. The final decision on the matter should be made by the parents in consultation with the physician only after carefully weighing of these factors against the boy's wish to participate. The modern outlook toward the handicapped is to encourage as near normal activity as possible, but there are other less hazardous sports to which such a youth could turn.

For boys with decreased vision in both eyes the problem differs. Even though a partially sighted player can compensate to some extent for his visual deficiency, he cannot be as safe or effective a performer in sports as he might be with normal vision. In sports like track, participants can wear their glasses. Some performers find it helpful to tape the bows at the temple to prevent displacement during play. In basketball satisfactory guards are available, but they are somewhat cumbersome and participants generally dislike wearing them. Since there is no guard that can make wearing glasses in football safe, the most satisfactory solution is contact lenses where these are practical and can be tolerated. The use of contact lenses by college and professional players is becoming commoner. For high school players, however, the cost is often prohibitive.

Answer.—Generally speaking it is foolhardy for a person with one eye to engage in contact sports. It is true that the possibility of injury or damage to the remaining eye are extremely remote, but with the possibility present, it is foolish

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The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically so stated in the reply. Anonymous communications and queries on postal cards cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.

to expose oneself to the chance of total blindness. In persons in whom vision is less than normal without correction and in whom no organic ocular disease exists, there is no ocular contraindication to contact sports. A surprising number of outstanding football players have less than normal vision, usually because of simple myopia. When necessary, vision is brought to normal by use of contact lenses. For a person with a high degree of myopia with degenerative changes, contact sports would also be contraindicated because of the possibility of incurrence of retinal detachment.

GYMNASIUM FLOORS AND WALLS

To the Editor:—*In a gymnasium for adolescent boys, are there any increased hazards with a concrete rather than a wooden floor? In the same type of gymnasium, is there an increase in risk of serious accidents with a cinder block as opposed to a wooden wall?*

Herbert Notkin, M.D., Baltimore, Md.

Answer.—Concrete floors in gymnasiums (certainly extremely uncommon) would create a greater accident hazard than the usual hardwood floors as well as providing a less desirable playing surface. Comparative statistics on the incidence of accidents on concrete and wooden gymnasium floors do not seem to be available, probably because concrete has been used little if at all for this purpose.

Asphalt tile laid over concrete is now being utilized in some elementary school gymnasiums (playrooms). Because of their greater resiliency, hardwood floors for gymnasiums in secondary schools, colleges, and community centers used by older groups are considered much superior. Greatest objection to the asphalt tile floor laid over concrete has been the fatigue players feel is generated by the hard unyielding surface.

For elementary school playrooms (usually a miltipurpose room) the asphalt tile floor is coming into commoner use because of its less costly construction. Since physical education and athletic activities at this level are of shorter duration, less strenuous, and not so highly competitive as for older groups, the fatigue factor is considered less important.

Relative to cinder block versus other construction for gymnasium walls, there is no reason why this should create special hazards. Safety in relation to walls depends on two primary factors, (*a*) location of border lines of playing areas such as basketball and volleyball courts far enough away from walls to eliminate the possibility of running or falling into walls during play and (*b*) provision of close supervision directed toward confining activities that might involve violent contact with walls and resulting accidents to safe areas. As an additional precaution, protective padding such as gymnasium mats, fastened to the wall where special hazards may exist, for example, on walls beyond the goals of basketball courts, is essential accident insurance.

HOSPITAL COMMUNICATION SYSTEMS

To the Editor:—*I should like advice as to the public address or call system in a small county hospital with 45 beds. About 15 physicians are active members of the staff. Is a call system advised by the best administrators? If needed, what system is most satisfactory, a voice, bell, or light system? We now have a box where physicians in the hospital can check in and out by turning a switch. This informs the desk of their presence, but there is still considerable expenditure of effort and time on the part of the desk and nurses on the floor, finding not only physicians but janitors and supervisors when calls come in.*

M.D., Indiana.

Answer.—Communication is one of the normal problems to be solved in any hospital, large or small. Some type of call system is necessary for convenience and efficiency. This much is established by the comment. Further, a call system can be of vital importance in emergency situations. There is no one best system. There are advantages or disadvantages, with corresponding applications for each. A voice system is perhaps the most flexible and generally applicable. In operation it can be disturbing or annoying if speakers are badly located or not well modulated. On the nursing units, one should not expect the person being called to hear the call while attending a patient. The head nurse or whoever is attending the nursing station should know whether the person being called is at her unit and should assist in completing the contact. An advantage of this system is that it can be used in calling anyone who must be reached at locations about the premises. Calls can be made by code designation for fire emergency, fire drills, and autopsies without alarming patients. If bells or chimes are used, they would most likely be used for specific purposes in conjunction with a paging system. The light system is well adapted to the smaller hospital, since the illuminated call panel is then not too complex. The system depends on your staff's being observant and attentive. Its advantage is that it is quiet. It is less effective for general paging and is applicable, in particular, to medical and supervisory staff in areas where they will be watching for calls. There has been much discussion about individual pocket radio call systems. At present there are two systems of this type under development and test. It is not possible to make a valid appraisal at this time, as there is little use experience to date. This system holds much promise if some of the problems can be overcome.

DEATH IN A SILO

To the Editor:—*A man, aged 19, was found in a silo that had been filled with new silage 24 hours before. He was dead on my arrival. The silage, which consisted of shredded corn stalks, was not level; in fact, there was a definite sloping of silage, and the man was lying at the lowest part of the silage. What sort of gas is most likely to have caused this death?* *John E. Schroeppel, M.D., Winthrop, Minn.*

Answer.—The reactions involved in the production of silage involve as a first step atmospheric oxidation of the carbohydrate material present. The oxygen in a properly constructed and properly filled silo is rapidly consumed. This is then followed by a fermentation reaction usually through the activity of lactic-acid-forming bacteria. During the course of both types of reactions one of the end products is carbon dioxide gas, which accumulates in the confines of the silo. The high concentration of carbon dioxide gas and absence of oxygen may account for this death.

SKIN RESISTANCE

To the Editor:—*1. What is the least and the greatest amount of skin resistance encountered in the making of electrocardiograms? 2. Is skin resistance ever high enough to diminish the deflection amplitude? What is done to obtain the correct amplitude if this condition exists? 3. Does skin resistance vary with the thickness and nature of the underlying tissues? 4. Does skin resistance vary with skin color? 5. What is the difference between skin resistance of dry and that of moist skin?*

Samuel Waldman, M.D., Brooklyn, N. Y.

Answer.—Skin resistance is an important factor influencing the size of electrocardiographic deflections when a string galvanometer is used for measuring electric flow. The amplitude of deflections is, however, almost independent of skin resistance in commercial amplifying systems working with a high input resistance. The total skin resistance in arm to arm leads, using sodium chloride without preparation of the skin, may be as low as 2,000 to 16,000 ohms but usually amounts to 24,000 to 100,000 ohms per square centimeter of skin surface. It is least in the cubital fossa and especially in the palms. It is diminished after exercise, heat application, or in hyperthyroidism. It rises (as high as 1,400,000 ohms) during sleep, in myxedema, or after section of sympathetic nerves. It is not significantly changed by drying of the skin. Thus, skin resistance appears to have an inverse relationship to the amount of secretion of sweat that short circuits the high resistance of the horny layer of the skin. The color and content of pigment of the skin does not alter its resistance to electric flow. Considerable increase of the amplitude of deflections lowered by high skin resistance can be achieved by repeated and vigorous rubbing of the skin with special pastes and electrocardiographic jellies containing abrasive particles, which loosen the horny cells, saturate them with electrolytes, and force electrolytes into the sweat ducts.

HEADACHE IN DIABETIC AFTER EATING FATS

To the Editor:—*A white man, 40, a severe diabetic, has severe headaches after ingestion of any kind of fat. He had a thyroid operation about 18 years ago. I should like information concerning the handling of this idiosyncrasy. With a diabetic diet, he has difficulty getting enough to eat without taking some fat.* *W. G. Elliott, M.D., Cuthbert, Ga.*

Answer.—This kind of response to the ingestion of fat is certainly unusual. It should be tested under controlled conditions before any drastic changes in diet are made. If it is actually true that all fats produce headaches in this patient, one would be justified in giving a high carbohydrate diet (between 200 and 300 gm. a day) together with liberal amounts of protein, up to 125 gm. a day. The protein should consist of fat-poor foods, among the best of which are lean meat, milk (skimmed, if necessary) and ordinary bread. This diet alone would provide about 1,800 calories. The remaining caloric requirement might be made up by supplying vegetable instead of animal fat. The best sources of this are nuts, oleomargarine and the vegetable oils used in cooking and salad dressings.

AMAUROTIC IDIOCY

To the Editor:—*What is the possibility of recurrence of Tay-Sachs disease in a couple whose first-born was normal, whose second child has the condition, and who contemplates a third? What is the possibility of recurrence if an artificial insemination is performed with a donor other than the father? Should the donor be non-Jewish?*

Leon Zussman, M.D., New York.

Answer.—Tay-Sachs disease, known also by the terms amaurosis and amaurotic idiocy, has a tendency to recur in brothers and sisters. In 92 families in which the infantile form appeared, 135 infants suffered from the disease among a total of 456 brothers and sisters. One infant only was affected in 65 families; two had the disease in 17 families; three infants were affected in 6 families; four had the disease in 3 families. One family had six affected children.

Little is known regarding the relative importance of the sperm and the egg in the transmission of human traits. It is not known whether the egg or the sperm is primarily responsible for the transmission of Tay-Sachs disease. The condition appears more frequently in the Jewish race than in other races; therefore, the insemination of a Jewish woman with the sperm of a non-Jewish person should lessen the chance that an offspring conceived by the use of such sperm would have the disease. Such an insemination, however, would be no guarantee that her offspring would not be affected.

EXTRASYSTOLES

To the Editor:—*In Queries and Minor Notes in* The Journal, *Aug. 8, 1953, page 1494, dealing with extrasystoles, you had two consultants report on suppression. It was a surprise to me that neither one mentioned a simple and usually efficacious method. Full digitalization will usually suppress a majority of extrasystoles (or ventricular premature systoles) when there is no underlying myocardial disease. This treatment on a maintenance dosage basis has the added advantage that only one dose of digitalis is necessary per day.*

Albert Abraham, M.D.
139 South St., Morristown, N. J.

LEFT-HANDEDNESS

To the Editor:—*In connection with the subject of left-handedness discussed in Queries and Minor Notes of Aug. 15, 1953, may I draw attention to your tendency to repeat old misconceptions regarding handedness. The respondent may refer to my monograph on this subject, "The Master Hand," published by the American Orthopsychiatric Association in 1946, and to many other recent authorities who take a different view. I find that handedness is a culturally acquired trait, not a heredity one, and that right-handedness should be actively encouraged for better adjustment to our right-sided world. In response to the question, my opinion is that personality conflict and inhibitions are one of the original causes, not the effect, of left-handedness as well as of language disabilities in speech and reading. If improperly handled, left-handedness will increase the personality difficulties of a child. But more significant than the handedness is the basic personality problem of which it is merely a symptom. Psychological investigations into the child's general care may then be indicated. It is preferable to take reasonable steps early to discourage left-handedness in a patient, tolerant, and kindly fashion, and, contrary to many current opinions, no ill effects will ensue. If use of the left hand is allowed to continue, the child needs special attention in writing instruction; the paper needs to be inclined in a direction opposite to that of the right-handed child. The left-handed child is also handicapped in learning to read because English has a rightward direction, and care must be exercised to overcome reversals.*

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SKIN PIGMENTATION IN INTERMARRIAGE

To the Editor:—*In Queries and Minor Notes in* The Journal, *Aug. 1, 1953, there is a question on the possibility of a child with negroid skin coloring being born to a couple phenotypically white but of part Negro ancestry. The opinion of your consultant is not shared by all students of human genetics, although it is popularly believed to be true and is often given as an argument against Negro-white miscegenation. In Kurt Stern's book "Principles of Human Genetics" (San Francisco, W. H. Freeman and Co., 1949, pp. 325-332), the genetics of pigmentary differences between the white and Negro races are discussed. It is stated that a marriage between a white segregant and a pure white person or between two white segregants should not, on theoretical grounds, give rise to darkly pigmented children, and that this expectation seems in fact to be fulfilled. He does not deny that children somewhat darker than their parents may be produced, but considers it highly unlikely that "black" or even very dark children will be found among the offspring of such unions. No well-authenticated instances had been reported prior to the publication of his book (1949), and the cases reported that proved accessible to investigation turned out to be based on hearsay rather than fact, or illegitimacy was involved.*

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REMOVAL OF PERMANGANATE STAINS

To the Editor:—*A simpler, safer, and cheaper method for the removal of potassium permanganate stains from glass urethral syringes, porcelain, and intact skin, etc., is the use of a weak solution of oxalic acid. Any hardware store has oxalic acid. Handled correctly, it is far safer than the strong mineral acids suggested in Queries and Minor Notes, Sept. 19, 1953, page 258. Such strong mineral acids have no place in a physician's office because of their possible accidental dangers.*

Edward Palmer, M. D.
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To the Editor:—*In Queries and Minor Notes, Sept. 19, 1953, page 258, Dr. C. H. Codelle of New York asks for stain remover for permanganate of potash. Oxalic acid is much milder than the ones mentioned, and a solution of it will remove such stains from utensils or the skin without damage. A pinch of crystals should be placed in a glass or small vessel full of water, and instruments soaked in it. In case of stains on the hands, some crystals can be taken in one hand, wet slightly, and rubbed on stained areas.*

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PRESENT-DAY MEDICAL MANAGEMENT OF ALCOHOLISM

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In recent years there has been an increasing awareness by physicians, social scientists, and laymen that alcoholism is a medical problem and that it is a vast one. Several million persons in the United States alone are subject to this syndrome. With the introduction of new drugs and the advance of psychiatric knowledge and techniques and with the advent of Alcoholics Anonymous, the former gloomy prognosis of alcoholism has been replaced by an attitude of hopefulness and interest that is entirely justified. A variety of excellent papers on specialized aspects of alcoholism have appeared in recent years, but, as is often the case, the literature leaves the physician who deals with alcoholics only occasionally in the difficult position of having to make his own synthesis from these various sources. It is our aim to fill this gap by discussing the day-to day medical management of alcoholism.

It must be emphasized that we have arbitrarily excluded consideration of psychotherapy from this presentation. This is not a value judgment. We are of the opinion that most alcoholics have underlying personality problems of varying magnitude and that proper treatment must include a therapeutic approach to these problems through one or more of many fruitful channels, such as counseling by an understanding physician or religious advisor, individual or group psychotherapy, or Alcoholics Anonymous. Such a systematic approach to reorientation of the personality is fundamental in the long-term treatment of alcoholism.

When alcoholic patients are first seen, they may present themselves in the acute alcoholic state, the postalcoholic state, or in the chronic state, hoping to avoid further flare-ups. Each of these conditions presents special probems in management, and each will be treated separately.

ACUTE ALCOHOLIC STATE

The acute alcoholic state may be defined as a period of uncontrolled drinking that interferes with a person's ability to function effectively. It may last from a day or two to several months, and it is usually accompanied by varying degrees of acute alcoholic intoxication. The duration is often determined only by the patient's ability to continue to drink, and this may vary widely in different persons. This phase is what most laymen consider the characteristic behavior of the alcoholic. It is what they refer to as a "spree," "binge," or "bender." Much severe and irreparable harm may be done to family relationships and to job and other interpersonal associations during an acute alcoholic episode. The bodily harm, accidents, and difficulty with the law that so often occur in the course of alcoholism are most frequently encountered during this phase of the illness.

When successfully managed, this phase of alcoholic disease offers an excellent opportunity for orientation of the patient to the real nature of his illness and to begin the over-all, long-range program necessary for its alleviation and the patient's rehabilitation. To look upon therapy administered during this phase as a simple "drying out procedure" is a mistake, and, if the only concern of the physician is to sober the patient up, he will miss an important opportunity to really help the alcoholic toward a useful, productive life.

It is held by many that it is useless to attempt to treat anyone during the acute alcoholic state unless the phase has run its course and the patient himself is anxious for treatment. This may be generally true, but not infrequently the physican may be able to convince a patient to accept treatment despite considerable reservation on the patient's part. If the therapy administered can successfully break the circle and ease the difficult immediate postalcoholic period, as many of the newer methods can, then much unnecessary suffering is eliminated and the possibility of a serious tragedy may be avoided. We do not question the advantage of wholehearted cooperation by the patient; experience shows that, if he can be prevailed on to try treatment, the acute alcoholic episode may be considerably shortened. While trying to talk the acutely alcoholic patient into accepting therapy is worth while, it must be remembered that threats and an attitude of disapproval will do more harm than good and that waiting may prove necessary.

The ideal place for treatment of the acutely alcoholic patient is the hospital, and every effort should be made

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This paper is a combination of two papers read as part of a symposium of the New York City Medical Committee on Alcoholism, April 15, 1953.

to convince both the patient and the hospital of the wisdom of this arrangement. It is surprising how little difficulty most acutely alcoholic patients cause in hospitals, a fact repeatedly confirmed by those hospitals courageous enough to admit this type of patient on the same basis as any other. It seems as though merely treating these people as any other sick person somehow makes them more tractable and cooperative. Occasionally, they become model patients. Hospitalization in open or general hospitals is not to be recommended if the patient is actively against any treatment or if force must be used. It is also best to treat active delirium tremens under more protected conditions than are generally available in open hospitals, although this can also be accomplished when necessary.

Hospitalization allows the physician complete control over the patient and is particularly helpful in the abrupt withdrawal of alcohol, a condition we believe preferable in the management of the acute alcoholic state. It removes the patient from members of his family and from home situations that may have been instrumental in bringing on the acute drinking episode and that are, indeed, an important factor in chronic alcoholism. Many of the newer techniques to be described are best carried out in the hospital where adequate laboratory and other special facilities are readily available.

Although we feel that hospitalization in acute alcoholism affords the most efficient way to therapy, such patients can be treated at home and even on an ambulatory basis. A great deal depends on the severity of the acute phase, the nature of the home, and the facilities available therein, and it goes without saying that a great deal depends on the motivation and sincerity of the patient. The use of nurses for the first few days may greatly simplify the patient's care.

A complete physical evaluation should be performed as soon as is practical. Concomitant chronic or acute illness is not uncommon in the alcoholic and may complicate the acute alcoholic phase, or vice versa. It is easily overlooked in the turmoil accompanying acute alcoholism. Knowledge of other illness is important in determining the choice of therapies, particularly if hormonal treatment is contemplated.

The specific management of the acute alcoholic state may be conveniently considered in three general areas.

Correction of Existing Physical and Physiological Abnormalities.—Correction of existing abnormalities should include consideration of fluid balance, correction of salt and nutritional deficiences when they exist, and diagnosis and correction of existing diseases. Most patients who have been drinking in an uncontrolled fashion for any length of time have sustained some degree of dehydration; this state should be recognized and corrected. In mild cases in which the patient is cooperative, the oral administration of whatever fluids the patient prefers is sufficient. A number of physicians feel that a varying but significant and specific loss of sodium chloride accompanies any acute alcoholic episode. This salt depletion is, in the opinion of some, a major factor in the patient's continuing compulsive drinking. In view of the foregoing and in view of recent concepts that implicate adrenal hypofunction in the acute alcoholic state, the use of salt in the treatment of this condition has been made a routine procedure by many. The value of salt has been clearly borne out in our experience. When possible, a patient may take it by mouth, either by taking salt tablets or by salting ingested fluids heavily. The intravenous use of isotonic sodium chloride solution is, of course, always available. Two to four grams of sodium chloride is the usual dose in the first 24 hours, of which not more than 2 gm. should be given intravenously.

The use of vitamins, particularly the B group and vitamin C, has been met with varying amounts of enthusiasm from time to time. By and large, we feel that their use in the treatment of the acute alcoholic state is warranted, since all other foods are often abandoned for alcohol and since a certain degree of acute avitaminosis can be presumed present after a drinking bout of more than a few days. In addition, the effect of vitamins of the B group on the state of the liver, and of C on the adrenal gland, is a beneficial one. Vitamins can be administered orally or intravenously. Large doses of vitamin B and at least 0.5 to 1 gm. of vitamin C should be given daily for the first two or three days.

Management of Symptoms Associated with Acute Alcoholic Intoxication.—Symptoms, such as marked hyperexcitability, restlessness, and nausea or vomiting, may be features of acute intoxication, and their control is a very important part of the management of the patient. As part of this management, one should also consider the use of agents to hasten the body metabolism of alcohol. Although considerable doubt exists as to whether it is possible to speed the metabolism of alcohol in the body, certain persons respond to intravenous administration of dextrose or dextrose and insulin. Inasmuch as the intravenous use of dextrose may be considered generally beneficial in the treatment of the acute alcoholic state, its use, particularly when severe intoxication is present, is advised. There is as yet no clear-cut evidence to support the idea that the use of insulin hastens the metabolism of alcohol in the body.

The management of acute alcoholic intoxication has been radically changed by the introduction of the adrenal steroid hormones. We feel this represents a significant advance. Although the exact relationship of adrenal function to alcoholism has by no means been conclusively demonstrated, it is evident that the use of these steroids in the acute alcoholic patient may result in striking and rapid improvement. Our experience has been mainly in the use of aqueous extracts of the adrenal gland and the pituitary-adrenal-cortical-stimulating hormone (ACTH). The use of these substances intravenously in those patients requiring more than merely mild symptomatic therapy has resulted in rapid relief of the acute intoxication, marked diminution in the symptoms usually associated with the immediate postalcoholic state, and a shorter period of duration of these symptoms. In many instances, it has made the need for sedation much less urgent and has frequently made only small amounts of sedatives necessary. We have used these hormones as soon as treatment was instituted. When aqueous cortical extracts are to be used, 20 to 60 cc. should be added to 1,000 cc. of dextrose and sodium chloride solution infusion, and the infusion should be administered at the usual rate. Twenty-five milligrams of corticotropin (ACTH) in a similar infusion may be administered. Such an infusion should take from six to eight hours to administer and may be repeated daily for a few days. Although significant side-effects are not likely on this small dosage, it is wiser not to exceed 2 gm. of sodium chloride per day. If significant cardiac or renal disease is present, the use of aqueous extracts probably widens the margin of safety. In patients in the acute alcoholic state, we have seen no ill-effects from the use of the adrenal steroids in the amounts described.

The relationship of adrenal steroid therapy and acute psychotic episodes is well established. When there is reason to suspect an underlying psychotic or prepsychotic personality, it is wiser to lessen the danger, to use the adrenal aqueous extracts than corticotropin. Although the use of adrenal steroids diminishes the need for sedation in the acute alcoholic state, some sedation is usually needed. Whenever possible, it is best to avoid the use of barbiturates because of the increased danger of establishing addiction in the alcoholic patient. Trichloroacetaldehyde (Chloral) or bromide and trichloroacetaldehyde have been useful in those patients receiving steroid therapy. The danger of giving trichloroacetaldehyde to an acutely intoxicated patient must be borne in mind, however. The relatively rare occurrence of trichloracetaldehyde intoxication should be watched for. Paraldehyde in small doses still is an extremely useful sedative in the alcoholic. In general, the fewer sedatives used the better, and the avoidance of the barbiturates when possible is a good policy. When barbiturates cannot be avoided, they should be reserved for giving a good night's rest.

Control of Symptoms Associated with the Immediate Postalcoholic State.—Marked tremor and tension feelings and other symptoms generally grouped together as psychomotor hyperactivity may be a significant feature of the immediate postalcoholic state. These symptoms are very disturbing to the patient and are the most important cause of immediate resumption of drinking. It is of the utmost importance that every effort be made to relieve them and that the patient be kept under strict control until such symptoms have sufficiently disappeared to make the likelihood of resumption of drinking minimal.

As has been previously mentioned, the number and degree of immediate postalcoholic symptoms is markedly lessened, if not altogether obviated, by the use of the adrenal steroids. If such symptoms are significant, the use of mephenesin (Tolserol) in doses of 0.5 to 1.5 gm. every four to six hours may be helpful. It is during this phase of the illness that addiction to sedatives is most likely to occur. Sedatives should be used if necessary but in a very controlled manner. The prescriptions issued to the patient should be for minimal amounts and repeated, rather than for larger amounts. When postalcoholic nausea and vomiting is a significant feature, the use of Apolamine (phenobarbital, 15 mg.; atropin sulfate, 0.1 mg.; scopolamine hydrobromide, 0.2 mg.; benzocaine, 0.1 gm.; riboflavin, 4 mg.; pyridoxine, 2.5 mg.; and nicotinamide, 2.5 mg.), useful in the control of these symptoms, may alleviate the condition when general measures have not been successful.

Depression and guilt feelings are often a prominent part of the postalcoholic state. Simple (not effusive) reassurance and gentle planning for the future (without encouraging or permitting unreasonable promises) can help relieve these symptoms.

Delirium tremens is a special complication of the postalcoholic state that is extremely important to recognize and deal with. It may result in death if unrecognized or mismanaged. Essentially, it is characterized by acute psychomotor agitation, acute visual and auditory hallucinations, tachycardia, and, ultimately, signs of peripheral circulatory collapse. The use of the adrenal steroids in delirium tremens has resulted in a really significant advance in the management of this condition and, not frequently, has been lifesaving. The method of their use is the same as described in the general use of the adrenal steroids in acute alcoholism. If aqueous adrenal extract is used, large quantities should be used (at least 40 to 60 cc. per 1,000 cc. infusion). Corticotropin, given intravenously in doses of 25 to 50 mg. per day, seems to be adequate. The use of supportive therapy, including additional fluid, salt, vitamins, and sedation, must be used as the indication arises. It is interesting to speculate as to how often the development of delirium tremens may have been avoided by the early use of adrenal steroid therapy in acute alcoholism.

Alcoholic coma is a special complication of the acute alcoholic state. The coma is, of course, due to the anesthetic effect of the alcohol on the brain, and the treatment is much the same as that of any anesthetic coma. The importance of watching for evidence of respiratory failure must be stressed. The possibility of pulmonary infections complicating prolonged coma should be borne in mind. Proper nursing care and the use of antibiotics are part of the management.

Convulsions occasionally are a feature of the postalcoholic state. When they occur, they usually appear after the acute drinking has stopped and, therefore, might be considered a complication of the immediate postalcoholic period. They can be quite severe. In most instances, no evidence of true epilepsy can be found. When this complication does occur, however, a thorough study including electroencephalography should be done if it has not been done in the past. Adequate dosage of anticonvulsive drugs should be used to control the episodes. These convulsions are usually limited to the immediate postalcoholic period, and, when they do occur, they tend to reappear with each alcoholic episode.

LONG-RANGE MEDICAL THERAPY

The management of the alcoholic between bouts has stirred up the hopes and anxieties of alcoholics, their families, and their physicians for many centuries. As is often true of complicated problems, simple panaceas are constantly sought and oft proclaimed. There is not now, and probably never will be, any simple method of turning an alcoholic into a nonalcoholic; as in any chronic illness, a period of long hard work must be contemplated.

Williams[1] and Mardones[2] advocate an elaborate nutritional regimen including massive vitamin therapy as a cure for alcoholism. They postulate that alcoholism is a metabolic disease of hereditary nature. Although most patients on such a schedule experience some feelings of well-being, various workers, following those techniques rigidly, have seen no significant effects on the drinking patterns of most alcoholics. Others claim mediocre results. The lack of clear-cut results does not seem surprising. Many alcoholics can voluntarily stop drinking for varying lengths of time, from weeks to months, for reasons that they consider adequate. For instance, an internist recently told of her surprise at the good health of two of her alcoholic patients. Each one when questioned said, "But of course, I've stopped drinking for Lent." "How could they do that," she asked, "if this were primarily a biochemical problem?"

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[1] Williams, R. J.: The Etiology of Alcoholism: A Working Hypothesis Involving the Interplay of Hereditary and Environmental Factors, Quart. J. Stud. Alcohol. 7: 567-587, 1947. Williams, R. J.; Berry, L. J., and Beerstecher, E., Jr.: Biochemical Individuality: Genetotrophic Factors in the Etiology of Alcoholism, Arch. Biochem. 23: 275-290, 1949. Williams, R. J.: Nutrition and Alcoholism, Norman, Okla., University of Oklahoma Press, 1951, pp. x-82; Alcoholism as a Nutritional Problem, J. Clin. Nutrition 1: 32-36, 1952.

[2] Mardones, J. R.: On the Relationship Between Deficiency of B Vitamins and Alcohol Intake in Rats, Quart. J. Stud. Alcohol. 12: 563-575, 1951.

Hormone treatment is a more complicated subject. As mentioned previously, there is evidence of adrenal depletion during alcoholic bouts. There is also a body of evidence that there may be adrenal depletion in chronic alcoholics. A number of reports have been published of patients who stopped drinking for considerable periods of time [3] while receiving injections of adrenal cortical extracts (ACE and Eschatin); these are given daily, at first, and then at weekly intervals. The doses have varied from 1 to 5 or 10 cc. given intravenously or intramuscularly. These are aqueous extracts; the lipoextract is never given intravenously. Corticotropin and cortisone have been used in such treatment regimens with similar results. Dosage schedules are somewhat lower than in many of the medical diseases in which they are effective. Here again the long-term results have not, in most hands, shown that any hormone is a sole and sufficient answer to the problems of most alcoholics, and, with one exception, none of the investigators have made such a claim. In this regard, the voluntary abstainers again illustrate a theoretical objection to a purely biochemical mechanism.

Neither vitamins nor hormones are the cure for chronic alcoholism, but this does not mean that vitamins, hormones, and dietotherapy have no place in its treatment. On the contrary, their role is important. Approximately 25% of the patients starting treatment for chronic alcoholism show evidence of moderate or severe malnutrition—often with lip, hair, and skin changes associated with depletion. The sense of physical well-being resulting from replacement of vitamins, proteins, and hormones and the sense of emotional ease resulting from the direct evidence of the interest of a competent physician both play an important role in helping these patients stay on the difficult road of sobriety and learn about themselves and their disease. Some physicians feel that, aside from the question of malnutrition, a low carbohydrate diet is important in alcoholics. Our own experience has not convinced us of this.

Conditioned reflex therapy is just what its name implies; it is a method of establishing an aversion to alcohol by the repeated association of nausea and sickness with the drinking of alcoholic beverages. This method has been used extensively on the west coast [4] and to a lesser degree in Boston, but it has not obtained a significant foothold elsewhere in this country. Doubtless, this treatment helps some alcoholics. Enough patients have been seen who had relapses following this training to make us feel that at present it is not the method of choice. From a theoretical point of view, the ultimate failure in some cases is not surprising, for the patients are offered no positive incentives to stop their drinking and no new outlets for the forces that led them to drink abnormally.

DISULFIRAM-ALCOHOL REACTION

We feel that the most important advance in the medical management of chronic alcoholism has been the advent of disulfiram (Antabuse). The role of disulfiram is to provide the patient with a simple and clear-cut temporary reason not to drink, namely the inability to drink without getting sick. This reality ordinarily outweighs any rationalizations or impulses of the moment. Psychiatric data have made clear the ambivalence in the alcoholic's attitudes toward drinking. When he seeks help, the dominant part of him wants to stop drinking, but there are parts of him that dissent boldly from that decision. This is the reason disulfiram has proved so helpful; the reality of the disulfiram-alcohol reaction helps many patients avoid that first drink and provides a built-in cooling off period during which they cannot run blindly and self-destructively away from their fears and troubles.

A young woman who had had several years of psychotherapy commented on this recently. "My psychotherapy has helped me in every way except with the drinking," she said. "Antabuse has been a godsend. I still get in rages against my husband and against my psychiatrist, and, always before, when I was angry like that, I would get drunk. Now I can't, and by the time I can, if I stop the pills, I'm not angry any more and so I start the pills again."

What of the effectiveness of disulfiram? It is surprising, considering all the variability and variables involved, that the statistics in recent papers on disulfiram therapy turn out very much the same. Larimer [5] was able to keep in touch with 118 of 193 patients. Of the 118, 25, 21%, seemed to be total failures in that they abandoned disulfiram and reverted to their previous drinking habits. Forty per cent of the patients seemed to conquer their alcoholism with the aid of disulfiram; that is, they stayed sober and continued to take disulfiram. Another 25% stayed sober or had one or two minor relapses after having taken disulfiram for a variable period of time. The final 16% had taken disulfiram intermittently and had done some drinking. Those who have had experience with alcoholism will agree that some of the 78% who seem to have been more or less rehabilitated by disulfiram will later seem to be failures, but it is also true that some of the so-called absolute failures will later return for further help and may eventually be rehabilitated. Whatever percentage of cure one accepts, out of the 78%, it is likely to be much higher than most students of the field would have thought possible in other days.

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3. Tintera, J. W., and Lovell, H. W.: Endocrine Treatment of Alcoholism, Geriatrics **4**: 274-280, 1949. Lovell, H. W., and Tintera, J. W.: Alcoholism: Recent Advances in Its Treatment, M. Times **80**: 191-198, 1952. Smith, J. J.: Endocrine Basis and Hormonal Therapy of Alcoholism, New York J. Med. **50**: 1704-1706, 1950. McAllister, R. G.: Use of Adrenal Cortical Hormone in Alcoholism: Report of 100 Consecutive Cases, Virginia M. Month. **79**: 70-73, 1952.

4. Lemere, F., and Voegtlin, W. L.: Evaluation of Aversion Treatment of Alcoholism, Quart. J. Stud. Alcohol. **11**: 199-204, 1950.

5. Larimer, R. C.: Treatment of Alcoholism with Antabuse®, J. A. M. A. **150**: 79-83 (Sept. 13) 1952.

Mann and his group in Hartford [6] reported a smaller series intensively studied. Of their 32 patients, 7, or 22%, were so-called absolute failures—1% more than in Larimer's series. If their figures are studied, it will be seen that the remaining 78% either were helped in varying degree or were in a condition to be helped, since administration of the drug in 25% of the patients was stopped by their physicians for reasons that at present might not be considered obligatory. Statistical and personal experience both show that disulfiram puts many alcoholics in a position to be rehabilitated. What then about the practical points of pharmacology, dosage and toxicity, and indications and contraindications?

The consensus is that a single 0.5 gm. tablet daily for an indefinite period of time is a satisfactory dose. Certainly the larger doses given in the early days of disulfiram therapy had many ill-effects and are not to be recommended. A considerable number of patients will complain persistently of side-effects that will be described later; these patients may be carried on 0.25 gm. (one-third of a tablet) daily with adequate protection, which means sufficient reactivity to alcohol. A few patients can be maintained on 0.125 gm. (one-quarter of a tablet), rarely on less.

Since there is no cumulative effect of the drug, no intermissions are indicated. On discontinuing therapy, it usually takes from 48 to 72 hours to clear the blood sufficiently to permit drinking without toxic effects. In some cases, the effects persist for five to seven days. An honest discussion of this variable with the patient is, we feel, necessary. A patient who has been told that the drug effect lasts five days and who finds that it lasts only two or three days will feel that he has been fooled; most alcoholics cannot tolerate this feeling.

The method of administration is psychologically important. The tablets should never be administered surreptitiously, although families often make that suggestion. Unless the patient knows that he has disulfiram in his system, he has no protection; he is merely in a position to be poisoned or to unknowingly poison himself. The patient is the one who must stop drinking, and he should take the pill without prying or checking on the part of the family. Lies, evasions, and subterfuges are part of the alcoholic syndrome, and these old destructive habits will be brought into play if snooping is encouraged. Only the physician who has the courage to understand and not to judge the patient for lapses is in a position to help the patient get used to the drug and to abstaining.

We often advise our patients to take their tablet in the morning when they brush their teeth, in an effort to make taking the pill as habitual and free from doubt and unconscious evasions as possible. As soon as the tablet has to be thought about, it is likely to be omitted. For the occasional patient who remains persistently drowsy on disulfiram, the tablet can be taken at night so it will act as a welcome sedative but still give adequate protection for the following day.

In addition to working out a dosage schedule, it is important to warn the patient against alcohol contained in substances not usually associated with drinking. Many medicines have alcoholic vehicles. These cannot be used and should be specifically warned against. Wine cookery, wine sauces, and wine vinegars can prove toxic, as can alcohol fumes in large volume.

Many side-effects have been reported. In our experience, drowsiness, headache, nausea, loss of appetite, and fatiguability are most commonly seen. Some patients are troubled by change of bowel habit with or without abdominal cramps, some by diminished potency, and a few by a metallic taste or a rash. Many patients report one or another symptom during the first days on disulfiram. If the symptom is not severe, simple reassurance usually suffices to calm the patient, and the symptom disappears spontaneously after a few days or weeks. If the symptom is severe or persistent, the dose should be diminished, as previously mentioned.

The sole serious toxicity of disulfiram, other than the disulfiram-alcohol reaction, is psychosis. There has been considerable confusion in the field, and this is reflected in the literature, as to whether the disulfiram psychoses have represented the precipitation of psychoses previously maintained in a latent form in a supersaturated alcohol solution. Probably both occur, but the drug psychosis seems to be the commoner mechanism. This is illustrated by the fact that in the early days of high disulfiram dosage psychotic episodes were seen in as many as 10% of cases [7]; since the dose has been reduced, these reactions are very rare. Experience also shows that patients who have had psychotic reactions while taking disulfiram usually revert to their previous emotional state within one to three weeks after they stop taking the drug, and many of these patients have been maintained for years on smaller doses of disulfiram without further psychotic breaks.[8] In those cases in which underlying psychosis is suspected, psychiatric consultation should be obtained before starting disulfiram therapy.

The disulfiram-alcohol reaction is a separate pharmacological entity. Clinically the reaction is characterized in its first stages by flushing, headache, nausea, salivation, burning of the eyes, and dyspnea; usually these occur 10 to 20 minutes after ingestion of alcohol. If severe, the reaction progresses to hypotension, vomiting, further dyspnea, pallor or cyanosis, and a feeling of tightness in the chest. Ultimately severe hypotension, extreme weakness, and collapse may ensue. Although the severity of the reaction generally parallels the amount of alcohol ingested, this is not always true. Occasionally, a small amount of alcohol precipitates a violet reaction. Untreated severe reactions may continue for four to eight hours.

The treatment of disulfiram-alcohol reactions is simple and effective. It consists of the administration of antihistamine drugs and the conventional treatment of shock. Antihistamines alone halt the symptoms of many reactions because of their specific blocking effect on the mechanisms producing the reaction; often the patient falls into a restful sleep, a sleep said by Martensen-Larsen [9] and others to be more certain and more restful than that obtained with conventional sedative measures.

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[6] Mann, N. M.; Conway, E. J.; Gottesfeld, B. H., and Lasser, L. M.: Coordinated Approach to Antabuse® Therapy, J. A. M. A. **149**: 40-46 (May 3) 1952.

[7] Fox, R.: Psychotherapeutics of Alcoholism, in Specialized Techniques in Psychotherapy, New York, Basic Books, 1952.

[8] Fox, R.: Personal communication to the authors.

[9] Martensen-Larsen, O.: Personal communication to the authors.

The dosage of antihistamine used is the same as is used in other conditions. Intravenous administration of diphenhydramine (Benadryl) hydrochloride may be the treatment of choice if a very rapid effect is necessary. If shock supervenes during the reaction, the usual measures (fluids intravenously with added constrictor amines, oxygen, and the Trendelenburg position) should be used. Cardiac stimulants may be added. Intravenous administration of ascorbic acid and iron does not seem to have any great influence on severe reactions.

The question is often raised whether every patient who is going to take disulfiram should undergo a disulfiram-alcohol reaction? To our minds, the word "every" carries the answer to the question; no human problem can be answered so categorically. There are many alcoholics who have a "devil may care," "nothing can hurt me" attitude; these patients characteristically have a very bland medical history, often suspiciously bland. Such a person is ducking reality, and the reality of personal experience with a disulfiram-alcohol reaction is of great importance. On the other hand, there are certain alcoholics who are hypochondriacs; they are consciously terrified by every pain or ache or potential pain or ache that they encounter. There seems no need to impress such a frightened patient with the danger of drinking while taking disulfiram; in some, the threat of a test acts as a real barrier between the patient and treatment.

The question of submitting patients to a test reaction when they fall in neither of these extreme categories must be left to the judgment of the physician. In any case, test reactions are absolutely contraindicated in patients in whom there is coexistent coronary artery disease, significant hypertension, or other disease that might be aggravated by shock. Test reactions are best produced in the hospital where fluid, oxygen, and cardiac stimulants are easily available and where the magic of the hospital adds to the impression of the seriousness with which the physician views the reaction. The amount of alcohol that will produce a reaction varies with the patient; to us it seems prudent to try a small dose, such as a half an ounce of whisky or its equivalent, to be followed by an equal quantity in 20 minutes if there is no reaction.

CONTRAINDICATIONS TO DISULFIRAM

The matter of contraindications to disulfiram has been overinflated. There seem to be no absolute contraindications except a personality clearly on the borderline of overt psychosis. Since disulfiram is in part excreted through the bile, liver disease has been stated as a contraindication, but many cirrhotics have been treated without ill-effects. Diabetes mellitus has been said to be a contraindication, but, again, experience does not support this view; there may, however, be changes in insulin requirements. Coronary artery disease and severe hypertension, as mentioned, are contraindications to test reactions, but experience shows they are not contraindications to treatment in a person stable enough to be informed of the dangers of possible reactions. In weighting the advisability of using disulfiram in cases in which coexistent illness presents a possible danger, one must consider the seriousness of the alcoholic syndrome in that patient, its social and physical impacts and their destructiveness, and, always, the likelihood of progression.

Anxiety and its protean somatic manifestations are commonly seen in chronic alcoholics. The use of barbiturates and other addicting drugs in controlling these symptoms should be extremely cautious. Some patients get as drunk on barbiturates as they do on alcohol, and many are undoubtedly susceptible to drug addiction because of the similar psychological and physiological factors involved in most addictions. Mephenesin is a much safer drug to help lessen the feelings of tension of these patients; unfortunately, its practical usefulness is quite unpredictable. Mephenesin is very helpful for some patients and quite useless for others. This is a matter of trial and error at present. When used in 0.5 to 1.5 gm. doses, it is best taken with food. One of the important roles of the physician in the treatment of these symptoms of anxiety is reassurance. This may seem obvious, but it is fundamental in the treatment of alcoholics. Many of these persons are certain that their bodies have been irreparably damaged by drink, but this is seldom a reality in the middle or upper class alcoholic group. Other alcoholics become equally certain that abstinence is wreaking bodily injury; this is untrue, except for some untreated cases of delirium tremens. The physician who values only his scientific knowledge and not his ability to provide understanding and reassurance will have difficulty in helping alcoholic patients.

In the long run, anxiety and the other uncontrolled impulses and emotions must be dealt with through understanding and reeducation of the patient. Although the processes leading to such changes fall outside of the scope of this paper, they must not fall outside of the scope of the treatment. The physician should either undertake this reeducation or refer his patient to those who will undertake it.

SUMMARY AND CONCLUSIONS

Alcoholism is a medical problem with somatic and psychological aspects, both of which may be modified by modern treatment. There is no longer any reason for the hopeless attitude that formerly surrounded this affliction.

The acute alcoholic state is a crisis in the course of chronic alcoholism. The most destructive acts and consequences of the alcoholic's course usually occur in this phase. The acute alcoholic state presents physiological and psychological problems peculiar to it. Their nature and alleviation are discussed with respect to hospitalization, fluid and electrolyte balance, and sedation. In particular, the use of the adrenal steroids has made the management of this phase much easier and more successful.

The long-range treatment must include medical and psychological approaches. Recently developed medical therapies have greatly increased the physician's success in the management of alcoholism; these are discussed, including the use of nutritional substances, hormones, and disulfiram (Antabuse). Of these, disulfiram seems to be the most important development in the long-range medical treatment of alcoholism, and its use is described in detail. With the revision of dosage schedules, the number of disabling side-effects has been markedly reduced, and experience has shown that many previous contraindications no longer seem valid. The antihistamines appear to be a specific antidote for alcohol-disulfiram reaction, and severe, potentially dangerous reactions can now be controlled to a great degree.

Medical therapies can be successful only when administered by a physician who has a sympathetic understanding of the alcoholic in the broadest sense and who is willing to exercise great patience and tolerance in his approach to the alcoholic patient. By the same token, the psychotherapy of alcoholism can be carried out by a sympathetic physician; in many cases, psychiatric referral is not necessary. Community resources can play an important part in the patient's rehabilitation and should not be overlooked.

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WHAT PHILADELPHIA PHYSICIANS TELL PATIENTS WITH CANCER

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The recent campaign to educate the American layman about cancer has undoubtedly made him "cancer conscious." The leaders of the campaign believe that at present the chief hope of reducing the high cancer death rate depends on treating the disease in its first stages. They have given wide publicity to the symptoms and signs of cancer to encourage the public to seek medical advice early, believing the advantages of early treatment outweigh the disadvantages of producing widespread cancerophobia. The information given to the layman is clear and specific, written by experts in the medical profession; there are pamphlets entitled "Cancer of the Breast," "Cancer of the Digestive Tract," "Cancer of the Rectum," and "What Everyone Should Know About Cancer." To a greater degree than ever before, the public is being taken into the confidence of the medical profession and is being asked to assist in the early diagnosis of a disease. Can we inform the layman up to a point and still keep him from recognizing a positive diagnosis?

The decision to tell or not to tell a patient he has cancer is largely an individual matter, varying with the personalities involved, and opinions vary as to the best policy. Some recent articles [1] have taken the view that all patients with cancer should be told the absolute truth. Studies of lay-attitude toward the problem have indicated that many laymen feel strongly that they themselves would want to be told. It has been our impression that most physicians in the Philadelphia area do not tell patients they have cancer, and we thought it worth while to determine the attitudes of physicians in a given locality. We have attempted to determine the opinions of the physicians of Philadelphia County by means of a written questionnaire.

THE QUESTIONNAIRE

Because we believed that too great a burden would be placed on the busy physician if we asked him for an exact breakdown of the number of patients he had or had not told in a specified time, we made up a questionnaire requiring one of four general answers: 1. I always tell the patient he has cancer. 2. I never tell the patient he has cancer. 3. I usually tell the patient he has cancer but do not under certain circumstances. 4. I usually do not tell the patient he has cancer but do tell under certain circumstances.

COMPOSITION OF SAMPLE

We selected eight groups of physicians in the Philadelphia area who, because of the type of medicine they practice, might be expected to offer suggestions on the management of cancer patients (table 1). Five of these (radiologists, dermatologists, surgeons, gynecologists, and internists) are specialists who come in frequent contact with cancer patients. A sixth group, the psychiatrists, see fewer patients with cancer than the above-mentioned specialty groups but were selected because they study the mental and emotional reactions to organic disease and might offer valuable opinions. A seventh group, members of the Academy of General Practice, were selected to represent the family physician, who is chiefly responsible for deciding what the patient is to be told and who is best qualified to evaluate the effect on the patient of telling him of his cancer. To check the specialty groups (including the members of the Academy of General Practice) against a nonspecialty group, a large number of physicians who were listed as having no specialty and who were not members of the Academy of General Practice were included in a nonspecialty group.

Subject to the definitions given above, the total number of Philadelphia physicians falling into the 8 groups was 2,400, as shown in table 1. This number constituted the universe from which our sample was drawn. This number does not represent all of the physicians in Philadelphia County, however, since several of the specialties were not included in the study and specialists who were not listed in the Directory of Medical Specialists were not included.

The questionnaires were mailed to 444 physicians, or almost 20% of the 2,400 physicians under consideration. This sample of 444 was selected serially from alphabetical listings of the several specialties after nonresidents had been excluded. The sampling ratios are shown in table 1. Approximately a third of most of these groups

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From the Harrison Department of Surgical Research, Schools of Medicine, University of Pennsylvania, and the Department of Surgery of the Hospital of the University of Pennsylvania.

Prof. Dorothy S. Thomas and Dr. Everett Lee of the Department of Sociology, University of Pennsylvania, assisted with the sampling methods and the preparation of the questionnaire.

1. Kelly, W. D., and Friesen, S. R.: Do Cancer Patients Want to Be Told? Surgery 27: 822, 1950. Wangensteen, O. H.: Should Patients Be Told They Have Cancer? ibid. 27: 944, 1950.

were questioned. The dermatology-syphilology group was so small, however, that questionnaires were sent to half of the group. On the other hand, so many fell into the nonspecialty category that only 10% of the group were sampled.

RESPONSE TO QUESTIONNAIRE

The excellent cooperation of the physicians in answering the questionnaire was gratifying. Eighty-nine per cent of the questionnaires were returned with some answer, and 82% of the questionnaires had answers complete enough to be analyzed. Seven per cent could not be analyzed for one of the following reasons: 1. The physician was out of practice. 2. The physician had no cancer patients. 3. The answer given could not be fitted into one of our four types of response. No one of the eight groups lacked representation, since in all instances a large percentage of each group returned the questionnaire.

TABLE 1.—*Composition of Sample of Philadelphia Physicians by Type of Practice* *

	Total No. of Physicians in Group	Physicians Sent Questionnaire	
		No.	%
Radiology	101	33	33
Dermatology-Syphilology	39	20	51
Internal Medicine	226	72	32
Surgery	127	42	33
Psychiatry-Neurology	130	43	33
Obstetrics-Gynecology	124	42	34
Academy of General Practice	119	40	33
Nonspecialty group	1,534	152	10
Total	2,400	444	19

* Specialists are those listed by the Directory of Medical Specialists, vol. 5, 1951; the list for the members of the Academy of General Practice was compiled by the secretary of that organization in Philadelphia; the nonspecialty group was obtained from the Medical Directory of Philadelphia and Metropolitan Area, October, 1951.

ANALYSIS OF ANSWERS TO QUESTIONNAIRE

Table 2 summarizes the answers to the four basic questions and shows conclusively that Philadelphia physicians in general do not tell patients they have cancer.

TABLE 2.—*What Philadelphia Physicians Tell Cancer Patients**

	Percentage of Total Answers
Always tell patient	3
Usually tell patient	28
Usually do not tell patient	57
Never tell patient	12
	100

* The sampling ratio varied from 10% to 51% for the nonspecialty group and the dermatologists respectively (table 1). If answers were weighted according to the proportions in the sample, the averages shown above would be as follows: Always tell patient, 3%; usually tell patient, 30%; usually do not tell patient, 55%; and never tell patient, 12%.

Only 3% stated that they always tell, and only 28% stated that they usually tell. Approximately 70% either never tell or usually do not tell. If the answers are weighted according to the proportions of each specialty in the sample, the percentages in table 2 would not be changed by any considerable degree; as can be seen from the footnote in table 2, weighting does not create a discrepancy of more than 2%.

Table 3 offers an analysis of what patients are told according to specialty groups. In this table the physicians have been combined into two general groups: (1) those who always or usually tell and (2) those who never or usually do not tell. The most striking feature is the response of the dermatologists, 94% of whom tend to tell the patient he has cancer. This difference in practice is almost certainly due to the fact that the dermatologists treat cancer with an unusually favorable prognosis and their patients can be cured in the majority of instances. This opinion was confirmed by several of the dermatologists who appended comments to their questionnaires. For example, one dermatologist stated: "Since cutaneous cancer is not a life or death matter, the procedure for the dermatologist would naturally be modified as compared with those who treat visceral cancer." Another comment was: "In my specialty as a dermatologist I tell the patient he has cancer after biopsy. I also assure him that cancer of the skin is not so serious as internal cancer because the former can easily be removed and checked for recurrence." Sixty per cent of the psychiatrists favor telling the patient he has cancer. Several of the psychiatrists remarked, however, that they do not see many cancer patients and their answers represent what they think should be done.

TABLE 3.—*Preferences for and Against Telling Patient, by Type of Practice*

	Always Tell or Usually Tell, %	Never Tell or Usually Do Not Tell, %
Dermatology-Syphilology	94	6
Psychiatry-Neurology	60	40
Surgery	41	59
Academy of General Practice	30	70
Nonspecialty group	25	75
Internal Medicine	21	79
Obstetrics-Gynecology	19	81
Radiology	12	88

The figure gives a graphic comparison of the specialty groups, showing the percentage of physicians in each group who tell the patient he has cancer. The specialists on the right hand side of the chart, that is, those who rarely tell the patient, tend to see the patient in the later stages of the disease or are responsible for terminal care. According to our results, the radiologists are the least likely to tell patients they have cancer.

All physicians were asked to list reasons that might cause them to disregard their usual practice of telling or not telling. Most men listed several reasons. The most frequent reason for not telling the patient when the usual practice was to tell was the danger of an unfavorable emotional reaction. The next most frequent reason was a request of the patient's family. When the usual practice was not to tell, the commonest reason for telling the patient was his refusal of necessary treatment. The second was the special need of some patients to plan for the future.

ADDITIONAL COMMENTS OF PHYSICIANS

In addition to answering the specific questions in the questionnaire, many physicians added pertinent comments. Several stated that it was difficult to express their usual practice within the narrow confines of the questionnaire and emphasized the difficulties of answering in generalities. Some stated that the word "cancer" should never be used but that the physician should use such terms as "abnormal tissue growth" or "tumor." In view of the specific information now being given to laymen about cancer, it is possible that such subterfuge may engender in the patient a deep and undermining distrust of his physician. Many specialists stated that they often left the decision in the hands of the referring physician. One of the most frequent comments was that, although the patient himself is not told, a responsible member of the family should always be told.

The opinions expressed in the additional comments closely paralleled the answers to the specific questions of the questionnaire. The majority who made additional comments stated that the patient should not be told. A few of these comments are as follows.

1. It is bad enough to have cancer, and the physician should not rob the patient of what little pleasure may be left in life for him. I can see at no time any reason why the patient should know he has cancer. The dread of the return of the disease, even if the patient is cured, is horrible.

2. I never tell the patient he or she has cancer no matter how strong or stable they are emotionally; very, very few of them are equal to standing the shock of being told the truth. If they don't know definitely—that is, so long as the doctor doesn't tell them the truth—they still have a ray of hope that it might be something else, no matter how much they think they have cancer.

3. During these times I never tell a patient he has cancer. The common people today are educated on cancer and other medical conditions to the extent that cancerophobia, poliophobia, and many other psychological disorders exist in our general population. This is an evil, and this evil is one of the greatest seen in practice today. One of my patients was sent to a hospital where he was told that he had cancer of the tongue. Before I saw him he had had this lesion some time and had worked every day. He was a great baseball fan in apparently good health and doing well. He went by himself happily to the hospital on my advice. When he learned the diagnosis he came home and got in bed. He had to be accompanied to the clinic the few times he attended before his death. He would not eat and lost interest in everything. I feel that his death was precipitated by causes of which cancer played only a part. Some medical education to the general public is in order, but I feel now that the program is going further than it was intended. The programs are defeating the purpose of medical education to the general public. Some of these programs are taking on the effect of demagogy in the interest of the societies which sponsor them rather than to render simple and helpful information which is nonconfusing for the public good.

4. I feel strongly against letting the patient know he has cancer! To all people, intelligent or not, the word cancer means a death sentence, and, even if you meet an occasional patient who insists on knowing the worst and says that it will not affect him one way or another, he will be mentally affected by knowing the worst.

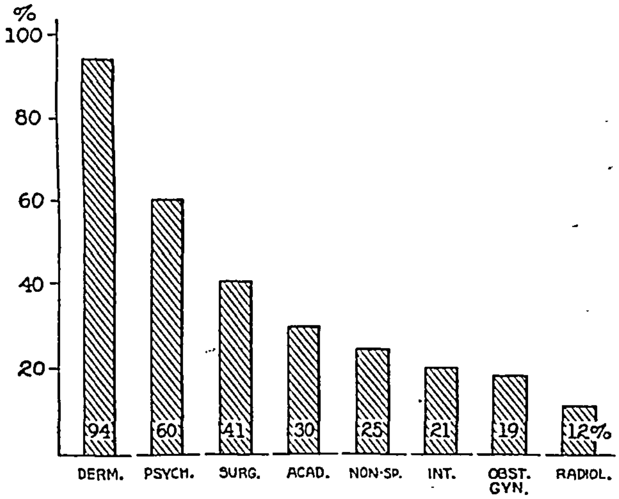
5. The patient should not be told he has cancer. The art of the practice of medicine meets no greater test than the problem under discussion. Some physicians exhibit a sadistic satisfaction in telling the patient bad news. Such doctors, while not able to save life by curing disease, destroy the spirit, which is even a greater failure. The way some physicians handle patients and relatives in the presence of cancer suggests that as doctors they are good blacksmiths.

6. The only justification for telling a patient that he has cancer is the failure of all other persuasion to enlist the full cooperation of the patient as to the indicated therapeutic procedure. This is a rare circumstance.

On the other hand, some physicians strongly urge that the patient should always be told if he has cancer. These comments were much less frequent than those expressing the opposite point of view. Some of these statements follow.

1. The time has arrived when it is impossible to fool intelligent people. The public is getting so well informed that the patient knows from the treatment advised and used that they are being treated for cancer.

2. I always tell the patient he has cancer. In forty years I have had only two instances where the full truth was not well received. You can create distrust in the profession or bitter loss of faith in the family if deception is practiced by anyone. All patients can bravely face even death if they know the truth and trust the honesty of the one they have selected to aid. They condemn their physician or even their close family if they discover they have been deceived and will not even trust a favorable prognosis should such be possible. To deceive a patient or even evade a real fact of certain death, is to torture the intelligence of those who will know, even if it be at the very last, that they could trust no one.



Percentage of members of specialty groups who tend to tell patients they have cancer.

3. The patient needs a deep confidence in the physician. This is obvious. It is less obvious but equally important that the physician have a deep respect of the patient. Sharing with the patient the fact that he has cancer, a malignant condition, can and should be evidence that the doctor has this respect and confidence in the patient's capacity to know and live with the truth. Failure to do this means the doctor does not have this feeling, and needs to shield himself. The doctor-patient relationship can be strengthened when there is mutual sharing and knowing together a painful truth. Otherwise a painful barrier can be built up.

4. It has been my experience that patients who have a curable cancer accept the truth very well. In view of the fact that a close and long follow-up is so essential, I find that these patients are extremely cooperative. To insist that patients return at regular intervals when they are ignorant of the true diagnosis, is only to arouse suspicion plus psycho-emotional maladjustment.

COMMENT

This study shows that most Philadelphia physicians do not tell patients they have cancer. We did not try to determine whether a trend toward telling was discernible in the practice of the profession. One might anticipate a trend toward telling as a result of the education of the layman about cancer. On examination of the additional comments to the questionnaire there is no definite indication that such a trend is occurring.

It is interesting that over 90% of the dermatologists usually tell patients they have cancer. Almost certainly they tell because they consider skin cancer a relatively benign disease. The fact that physicians treating visceral cancer usually do not tell may indicate that these physicians consider visceral cancer a lethal disease, despite the great amount of writing to the effect that visceral cancer is curable when it is treated early. It might be inferred, therefore, that if the cure rates for cancer improve significantly, many physicians will swing over to an affirmative view.

The study shows that a great deal more needs to be done in determining the mental and emotional reactions of cancer patients and how these reactions should be handled by the physician. Renneker and Cutler [2] in a recent study stated that all of a group of 50 patients with cancer of the breast actually knew they had cancer even if not told by their physicians. These patients were relieved when they had someone who would talk to them about cancer. On the other hand, in our study three instances of suicide were reported to have been the direct result of patients being told they had cancer. (Two instances were reported by one physician, and one instance was reported by another.)

We do not propose to give an answer to this perplexing problem. Our own opinion, after several years of study concluding with this investigation, might be best summed up in the words of one of the internists who commented on the questionnaire as follows: "Most patients and almost all people who have discussed this problem with me have expressed a hope that they would be told the truth. Most families of patients, on the other hand, have actually asked that the patient not be told. In theory I believe that we should tell all patients except when there are definite reasons for not doing so. I think that those reasons need clarification. I do not know which patients I might make feel worse by telling, and, therefore, I do not know with confidence which patients to tell."

SUMMARY AND CONCLUSIONS

A sample of 444 physicians in Philadelphia County were questioned concerning what they told patients with cancer. The response from the questionnaire was excellent and indicated a keen interest in the problem. Eighty-nine per cent of the physicians who were questioned responded, and 82% gave answers complete enough to tabulate. Seventy per cent of the physicians either never tell a patient he has cancer or usually do not tell; 30% either always tell or usually tell.

When the replies are analyzed according to specialties, the most striking variation concerns the dermatologists. Ninety-four per cent of the dermatologists either always or usually tell the patient he has cancer, and only 6% never or usually do not tell. This difference between the policy of dermatologists and the other groups can be explained by the fact that dermatologists treat types of cancer that have a more favorable prognosis than cancer treated by other physicians. This point of view is supported by comments added to the questionnaire by several dermatologists. In view of the striking contrast between the dermatologists and the other groups, it seems reasonable to believe that the physicians treating visceral cancer do not tell patients they have cancer because they consider the prognosis unfavorable. The question of the curability of cancer was not considered specifically in the questionnaire, and the above conclusion is based on our interpretation of the data.

Studies are needed to determine which patients with cancer might benefit by being told they have cancer and which might not. In view of the tremendous amount of information about cancer given to laymen, it seems that the medical profession will be forced to study this problem extensively.

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[2] Renneker, R., and Cutler, M.: Psychological Problems of Adjustment to Cancer of the Breast, J. A. M. A. 148:833 (March 8) 1952.

Cancer Mortality Trends.—In the past two decades the trend of mortality from the malignant neoplasms (cancers and allied conditions, such as leukemia) has been characterized by rather marked sex differences. The recorded rate from this cause of death has been decreasing among women and increasing among man. . . . Among white females . . . the death rate from malignant neoplasms dropped 12% between 1940-1942 and 1950-1952. . . . In contrast, the mortality among insured white males showed an increase of about 5%. . . . As a result of these divergent trends, the death rate for males is now 28% above that for females, whereas 10 years earlier it was only 8% higher; 20 years ago the male rate was actually the lower of the two by 3%. Virtually every age group among white women has shared in the long-term decline in the death rate from malignant growths. In the past decade alone the reduction was as much as 21% at ages 35-44 and was nearly as large at 25-34 years; even at ages 65-74, where the improvement was smallest, it amounted to 9%. Not only is the cancer death toll among women decreasing, but the rate of decline has accelerated. There can be little doubt that real progress is being made in the control of cancer among white women. Quite different, however, is the record for white men. Their death rates from malignancy are higher now than two decades ago at every age group. As a consequence, in the age range 25-54, where the female death rates from malignant neoplasms are higher than those for males, the sex difference has greatly diminished in the past 20 years; at ages 55-74, where the rates for males are the higher, the difference has widened considerably. At ages under 25 the general trend of cancer mortality has been upward in both sexes, primarily because of the increase in the recorded death rate from leukemia. . . . In part, the rise in the recorded death rate from malignant neoplasms among males reflects simply the more frequent detection of the disease, as a result of improved methods of diagnosis and an increasing number of autopsies. Inasmuch as a higher proportion of inaccessible cancers occurs in males than females, undetected cancers in the past were more common among males, and such deaths were ascribed to some other cause. Conversely, the improvement in diagnosis has brought to light more cases among males than females. Respiratory cancer is a conspicuous example of the influence of these factors.—Sex Differences in Cancer Mortality Trends, *Statistical Bulletin,* Metropolitan Life Insurance Company, July, 1953.

RESULTS OF SURGICAL TREATMENT OF BREAST CANCER AT JOHNS HOPKINS HOSPITAL, 1935-1940

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Through the years the concept of radical breast surgery was held by many men, yet it remained for William Stewart Halsted to develop the modern and complete operation for breast cancer. Such celebrated surgeons as Le Dran and Petit of France, Volkmann, Billroth, and Heidenhain in Germany, Moore, Lister, and Banks in England, and S. W. Gross and Willy Meyer in the United States were among the leaders of their period, but precedence for radical mastectomy has been uniformly bestowed on Halsted.

In the Johns Hopkins Hospital reports for 1890 and 1891 within the text of an article on wound healing Halsted[1] first published a summary of 13 cases of breast cancer treated by his initial technique of radical surgery. "About eight years ago (1882) I began not only to typically clean out the axilla in all cases of cancer of the breast but also to excise in almost every case the pectoralis major muscle, or at least a generous piece of it, and to give the tumor on all sides an exceedingly wide berth." All tissues were to be removed in one piece—dissection in continuity. Later Willy Meyer (1894)[2] advocated the routine removal of the pectoralis minor muscle, an amendment acknowledged by Halsted and readily accepted in his subsequent surgical technique.

In the ensuing years many skillful surgeons have contributed modifications to the basic principles of this classic operation. Today radical mastectomy remains the operation of choice in most cases of cancer of the breast. Yet there has recently arisen among competent observers a difference of opinion as to the effectiveness of radical mastectomy in the treatment of cancer of the breast. Contributing to this present state of doubt and dilemma are many conflicting voices of preeminence.

Haagensen and Stout (1943)[3] have clearly shown that certain cases of advanced breast cancer must be regarded as "categorically inoperable." Pack (1951)[4] and his courageous colleagues call for total mastectomy for cancer of only one breast—prophylactic bilateral mastectomy. McWhirter (1949),[5] a resolute radiotherapist to the Royal Infirmary of Edinburgh, believes that more lives can be saved in unselected cases by simple mastectomy combined with superior x-ray therapy. Gordon-Taylor (1948),[6] Wangensteen (1950),[7] and Urban (1952)[8] fearlessly explore the mediastinum and neck in an extensive thoracocervical dissection known as the superradical mastectomy. This heroic surgery is the contemporary consummation of somatic reduction and must await the test of time for its ultimate assessment. The leading exponents of ultraradical surgery are seeking "second look" operations, whereas Park and Lees (1951)[9] have recently intimated that it is extremely doubtful if the survival rate is influenced by treatment at all. In commenting on our inability to control breast cancer mortality, McKinnon (1951)[10] claims that "the failure of early treatment to reduce mortality shows that spread of remote metastases occurs before interference is possible." Perhaps a survey of the operative treatment of breast cancer at a large teaching hospital that has been closely linked by history and tradition with the development of radical mastectomy might be helpful in placing this perplexing problem in the proper perspective.

MATERIAL AND METHODS

The study consisted of a long-term follow-up survey of all patients with primary breast cancer who received surgical treatment at the Johns Hopkins Hospital during the period 1935 to 1940 inclusive. In this survey a total of 255 female inpatients, both private and ward, Negro and white, entered the hospital with a clinical diagnosis of breast cancer. Two hundred and twenty of these patients subsequently underwent operation; 14 were treated by simple mastectomy, 204 by radical mastectomy, and 2 by local excision (one patient having pulmonary metastases and the other refusing further treatment).

The remaining 35 patients were treated by radiotherapy alone, were considered to have lesions hopelessly advanced and beyond treatment, were discharged without treatment, or refused treatment. No further follow-up of these patients was undertaken. An indeterminate number of outpatients with primary, recurrent, or metastatic breast cancer were seen in the large and active outpatient department of the Johns Hopkins Hospital, but there were no statistics available for this group of unrecorded patients. Male patients and patients with malignant lesions of the breast other than primary breast cancer were excluded from this study.

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This clinical investigation was supported in part by research grants from the S. Kann Sons Foundation, the Alexander and Selma H. Hecht Foundation, and the Marcelle Fleischmann Foundation (through the Maryland Division of the American Cancer Society).

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The obvious difficulty of tracing patients who had been operated upon some years previously was, of course, inevitable but not insurmountable. By perseverance and pursuit a successful follow-up was obtained in 208 patients, or 94.5% of the present series. All patients lost to follow-up or those dying of intercurrent disease were considered to be dead of cancer for purposes of this computation.

Because of realization of the great variability in the natural history of breast cancer, with its unpredictable tendency to remain quiescent for long periods of time or to metastasize early, the criteria of operability at this hospital have usually been flexible but lenient and tempered by individual judgment. The rigid but valuable standards of operability published at a later date by Haagensen and Stout (1943) [3] were not strictly adhered to during the period of this survey.

The diagnosis was verified by pathological examination in every patient. One of us (P. C. G.) has recently reviewed the histological material from the 64 cases of breast cancer in which the patients were known to have survived 10 years or longer to correlate, if possible, histological structure with clinical course.

TABLE 1.—*Five-Year End-Results of Surgical Treatment for Breast Cancer, 1935-1940*

Type of Treatment	Stage of Disease	No. of Patients	Living and Well No.	Living and Well %	Living with Recurrence No.	Living with Recurrence %	Total Survivors No.	Total Survivors %
Radical mastectomy	Breast alone	78	44	56.4	6	7.7	50	64.1
	Breast and axilla	126	35	27.7	5	4.0	40	31.7
	Total	204	79	38.7	11	5.4	90	44.1
Simple mastectomy	Breast alone	5	2	40.0	..	...	2	40.0
	Breast and axilla	9	2	22.2	..	...	2	22.2
	Total	14	4	28.6	..	...	4	28.6
Local excision	Breast alone	1	1	100.0	..	...	1	100.0
	Breast and axilla	1	..	....	..	...	0	0.0
	Total	2	1	50.0	..	...	1	50.0
	Total	220	84	38.2	11	5.0	95	43.2

Comparison of treatment and survival rates is usually based on the clinical staging of the disease. However, this code of classification by clinical stages in cancer of the breast is difficult, depends upon individual judgment, and varies considerably in accuracy from patient to patient and from site to site within the breast. Despite the desire for uniformity in classifying clinical stages, the present series was divided arbitrarily into only two groups, namely, (1) those patients without axillary metastases by microscopic examination and (2) those patients with axillary metastases by microscopic examination. In the few cases in which the axillary contents were not available for pathological examination, it was necessary to resort to classification by clinical stages alone.

RESULTS

Clinical Study.—In discussing the results of radical mastectomy, Halsted (1907) [11] stated that in the ultimate survival of the patient "the variety of the cancer, the time elapsed since its appearance, the degree of outlying involvement, the activity of the gland (lactation, age of patient), the thoroughness of the operation, are important factors." Of these variable factors of importance, the presence or absence of axillary involvement appears to be of paramount and decisive influence in determining the prognosis of patients with breast cancer. Table 1 records the five-year survival rate at this hospital for all patients with breast cancer operated upon from 1935 to 1940 inclusive.

The total five-year survival rate for all patients regardless of the type of surgical treatment or the stage of disease was 43.2%. The so-called clinical "cure" rate—patients living and well without discernible evidence of recurrence or metastases at the end of five years—was 38.2%. Axillary metastases were noted in 62% of patients who were subjected to radical mastectomy. When surgical treatment consisted of radical mastectomy, almost two-thirds of the patients without axillary metastases were still alive five years after operation, whereas only one-third of the patients with axillary metastases were alive at the end of this period.

Using a more ambitious yardstick the 10-year end-results of surgical treatment are indicated in table 2. The over-all 10-year survival rate was 29.1%. If cancer remained confined to the breast alone, however, the 10-year survival rate was 47.6%. On the other hand, if breast cancer had already spread to the adjacent axilla, the 10-year survival rate then fell to 17.6%.

The average age at operation of all patients with breast cancer in this series was 51.9 years. The average age of patients having breast cancer without axillary metastases was 53.7 years, whereas the average age of patients having breast cancer with axillary metastases was 50.9 years. The youngest patient in this series was 27 years old and the oldest was 90 years old. Of the several cardinal factors that could conceivably modify the five-year survival rate, age appeared to be of some tangible prognostic significance. The over-all five-year survival rate for patients in the present series was 43.2%, whereas the five-year survival rate computed for patients under the age of 40 was only 29.6% (table 3). Thus, a comparatively poor prognosis for young women was demonstrated in this small series, both when axillary metastases were present and when they were not. It should be carefully noted, however, that the breast and axilla were involved in 136 patients, or 61.8% of the entire series. In the limited group of women under the age of 40 the breast and axilla were involved oftener, in 70.4% of the patients, thus indicating a more advanced disease at the time of operation.

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[11] Halsted, W. S.: The Results of Radical Operations for Cure of Carcinoma of Breast, Tr. Am. S. A. **25**: 61-79, 1907 (reprinted); abstracted, Ann. Surg. **46**: 1-19, 1907.

During the period of this study (1935 to 1940) radiotherapy was still a relatively new departure, and in the light of today's technique this early therapy may be considered inadequate and unsatisfactory. Although steady progress took place during the 1930's, the most marked advances have occurred only in the past decade.

TABLE 2.—*Ten-Year End-Results of Surgical Treatment for Breast Cancer, 1935-1940*

Stage of Disease	No. of Patients	Living and Well		Living with Recurrence		Total Survivors	
		No.	%	No.	%	No.	%
Breast alone........	84	34	40.5	6	7.1	40	47.6
Breast and axilla...	136	23	16.9	1	0.7	24	17.6
Total.............	220	57	25.9	7	3.2	64	29.1

TABLE 3.—*Five-Year End-Results of Surgical Treatment for Breast Cancer in Women Under Forty*

Stage of Disease	No. of Patients	Living and Well		Living with Recurrence		Total Survivors	
		No.	%	No.	%	No.	%
Breast alone.....	8	4	50.0	..	....	4	50.0
Breast and axilla	19	2	10.5	2	10.5	4	21.0
Total..........	27	6	22.2	2	7.4	8	29.6

The criteria for radiotherapy in breast cancer—then and now—reveals a disconcerting lack of uniformity. The decision to use radiotherapy as an adjunct to surgery either preoperatively or postoperatively appears to have been made independently according to the custom of each individual surgeon. Thus, treatment given at random and based on ill-defined and intangible clinical judgment results in uncritical conclusions that are difficult to assess.

Preoperative radiotherapy alone was given to 40 patients, 77.5% (31 patients) of whom were found to have axillary metastases at the time of operation. The five-year survival rate for these patients receiving preoperative radiation was 25% (10 patients). Postoperative radiotherapy alone was given to 60 patients, 34 (56.6%) of whom were found to have axillary metastases at the time of operation. The five-year survival rate for these patients receiving postoperative radiation was 30% (18 patients). Thus, it would appear from these survival rates that neither preoperative nor postoperative radiotherapy was of benefit in increasing survival in this small series.

It is well, however, to suggest that patients who seemed to have had the most advanced disease or those who were considered by the operating surgeon as having the poorest prognosis were usually the most likely prospects for added radiotherapy. There is sound reason to believe that, if strict criteria of operability are observed, radiotherapy as an adjunct to surgery may actually be unnecessary. Also, if radical mastectomy failed to remove cancer in toto, then the amount of postoperative radiotherapy that could be safely administered to a thin veil of skin overlying a denuded chest wall may be entirely inadequate for sterilizing the field or stimulating the host reaction to prevent the appearance of skin recurrences. Nevertheless, current practice at this hospital favors the use of postoperative radiotherapy in all patients with axillary metastases.

HISTOLOGICAL STUDY

To determine if there might be any notable histological characteristics of the breast carcinomas that were removed from the 64 patients who had undergone surgery and had survived 10 years or more, the histological sections from these cases were reviewed. This differs from the usual procedure followed in histological evaluation of prognosis of breast carcinoma where microscopic sections are reviewed without knowledge of the clinical course. No attempt was made to compare histologically this apparently long-survival series with a comparable short-survival series, although this would be of considerable interest.

The number of microscopic sections available for study from each of the 64 cases ranged from 2 to 18, with a median number of five sections. From one to 11 lymph node sections with a median of three sections were available for examination. In examination of the sections the following factors were noted: lymph node involvement, vessel invasion, pattern, tubule formation, cellular and nuclear morphology, hyperchromatism, mitoses, necrosis, and desmoplasia. For the most part Stewart's (1950)[12] histological classification of breast cancer was used. Table 4 shows the variety of histological types, tubule formation, and lymph node metastases found in this series of 10-year survivals.

TABLE 4.—*Histological Classification of Breast Carcinoma in Sixty-Four Patients Known to Have Survived Ten Years or Longer*

Type	No.	%	Tubules Present	Nodes Involved
Duct Carcinoma				
Infiltrating with fibrosis (scirrhous)	26	40.6	12	10
Papillary with infiltration.........	2	3.1	2	1
Medullary carcinoma with lymphoid infiltration	5	7.9	1	3
Mucoid carcinoma..................	2	3.1	2	1
Infiltrating "comedo" type........	8	12.5	1	2
Infiltrating carcinoma (mixed or unclassified *)	15	23.0	8	5
In situ duct carcinoma............	1	1.5	..	..
Anaplastic carcinoma................	2	3.1	..	..
Well-differentiated adenocarcinoma.	1	1.5	1	1
Lobular carcinoma...................	1	1.5	..	1
Equivocal carcinoma †..............	1	1.5	..	..

* It was not well demonstrated in the sections available that all these arose from ducts, but their general pattern was strongly suggestive.

† A positive tissue diagnosis of breast carcinoma had previously been made from other sections of the operative specimen than those available at this time.

In general it may be stated that no histological characteristics that could be correlated with the prolonged clinical course were found in a review of these 64 carcinomas of the breast from women known to have survived 10 years. There were, however, several results of the study that warrant mention. It was notable that in only one case was the diagnosis of in situ carcinoma made, the other 63 cases showing definite stromal infiltration. In 24 cases (37.5%) metastases were revealed in one or more lymph nodes. Not infrequently other findings also generally regarded as purporting a poor prognosis were noted, such as skin invasion and metastases to muscle. Tubule formation indicating a favorable prognosis was absent in 41 (64%) cases, as noted in table 4. It is interesting that adenocarcinoma, "comedo" carcinoma, and medullary carcinoma with lymphocytic infiltration, the histological types of duct carcinoma usually associated with a better prognosis, were not especially conspicuous in this series. It is remarkable that the proportion of the histological types of breast carcinoma noted in this long survival series is about the same as the proportion seen for all cases of breast carcinoma. These observations demonstrate that, at least in this series, the histological appearances alone would not have allowed one to prognosticate the 10-year survival that ensued.

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[12] Stewart, F. W.: Tumors of the Breast, Armed Forces Institute of Pathology, Atlas of Tumor Pathology, section IX, fascicle 34, 1950.

COMMENT

There are few fields in surgery with more pitfalls for the statistically unwary than the appraisal of end results in the treatment of breast cancer. Almost 50 years ago Halsted (1907)[11] commented that "It is especially true of mammary cancer that the surgeon interested in furnishing the best statistics may in perfectly honorable ways provide them. The most conscientious man may refuse to operate upon any but favorable cases. . . ."

Real benefit, however, can be derived from a review of the end results of treatment if a great deal of scrupulous care and strict uniformity is observed in recording and reporting clinical studies. In this effort to eliminate the personal "built-in bias," all results should be accurate and intelligible, comparable with similar studies the world over, and indicative of genuine improvement (if such be the case) over alternative methods of treatment or even over the natural life history of the disease itself if no treatment was given at all. The validity of comparative results must be based upon a common language applicable to a specific type of cancer, operative or radiotherapeutic procedure, selection of cases and uniformity of reported end-results. Decisive factors other than treatment do, of course, influence survival and prognosis in cases of breast cancer. Such important antecedent factors as those indicated by Lewison and Allen (1953)[13] (heredity, fertility, age, marital status, pregnancy, and lactation), as well as, grading of malignancy, tumor size, position and rate of growth, stage of disease, host resistance, duration of disease, selection of patients, and criteria of operability present many problems that must be successfully solved before one can precisely determine the best treatment plan for each patient. As noted by Smithers and his colleagues, (1952)[14] "Comparisons of overall results obtained in the best treatment centres which do provide the basic data on which absolute survival rates can be calculated show that a steady improvement has occurred over the years but do not yet provide conclusive evidence that the slight differences observed in groups treated at about the same time are due to the treatment methods advocated and not to variations in the material treated."

The results of radical mastectomy in the treatment of cancer of the breast at the Johns Hopkins Hospital were first reported by Halsted in 1907. Excluding 65 patients in whom simple surgery was found more suitable, there remained 232 patients treated by radical surgery. In about 50% of these patients, supraclavicular neck dissection was combined with radical mastectomy. Although the end-results in 18 patients were unknown, these untraced patients were considered to be dead of the disease. The three-year survival rate for this early period was 38.3%, with a relative "cure" rate of 32.3%. The five-year survival rate (revised) was 28.9%, with a relative "cure" rate of 24%. It is of interest to note that the statistics of the present series represent an improvement in end-results, which are almost 15% better than the earliest Halstedian era.

Lewis and Rienhoff (1932),[15] in a most exhaustive study, reviewed a series of 950 consecutive breast cancer cases observed at the Johns Hopkins Hospital during the 42 year period 1889 to 1931. During this long timelag in follow-up, it is indeed unfortunate but readily understandable that 22% of the patients were completely untraced. Considering only 420 patients in whom accurate survival information was available, the five-year survival rate following radical mastectomy was computed to be 18.1%.

A survey of the results of ward patient treatment at the Johns Hopkins Hospital for the 11 year period 1932 to 1942 was carefully reviewed and reported by Jones (1949).[16] Of 304 ward patients with breast cancer, 52 (17%) were considered unsuitable for radical mastectomy and 31 (10%) were lost to follow-up. The five-year survival rate (excluding those patients lost to follow-up) was 34%. However, considering all patients (those lost to follow-up being computed as having died of cancer), the five-year survival rate would then be revised to 29.3%—a result almost identical with the initial results of Halsted.

A unique and particularly interesting study of 298 consecutive cases of breast cancer treated by radical mastectomy was reported by Finney, Merkel, and Miller (1947).[17] All patients were the private patients of four distinguished surgeons who received their training either directly or indirectly as disciples of Dr. Halsted. Their five-year survival rate (computed exclusive of those patients lost to follow-up and postoperative deaths) was 49%. Revising this over-all survival to include total patients, the five-year survival rate was then 45.3% whereas the 10-year survival rate was only 17.4%.

These statistics are indeed provocative but provide no ready answer to the unpredictable behavior of breast cancer. Why this similar group of patients, Baltimore's beau monde—operated upon by a quartet of Halsted's most skillful students—should have a five-year survival rate almost identical with the present Johns Hopkins series yet have a 10-year survival rate that is scarcely comparable remains a caprice of biostatistics. As suggested by Lees and Lees,[18] data presented in a purely statistical fashion should not give the misleading impression of rigid mathematical certainty. "They should simply define with accuracy and with known uncertainty what would otherwise have been more or less inaccurate impressions."

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[13] Lewison, E. F., and Allen, W. A.: Antecedent Factors in Cancer of Breast, Ann. Surg. **138**: 39-50, 1953.

[14] Smithers, D. W.; Rigby-Jones, P.; Galton, D. A. G., and Payne, P. M.: Cancer of the Breast: a Review, Brit. J. Radiol. supp. 4, 1952.

[15] Lewis, D., and Rienhoff, W. F., Jr.: Study of Results of Operations for Cure of Cancer of Breast Performed at Johns Hopkins Hospital from 1889 to 1931, Ann. Surg. **95**: 336-400, 1932.

[16] Jones, H. W., Jr.: Carcinoma of Breast: Present Status of Therapy, Am. J. Surg. **77**: 696-704, 1949.

[17] Finney, G. G.; Merkel, W. C., and Miller, D. B.: Carcinoma of Breast: A Study of 298 Consecutive Cases, Ann. Surg. **125**: 673-687, 1947.

Today national and international cancer societies are imploring greater standardization in reporting cancer statistics. It is, of course, most desirable that criteria for determining the clinical stages of breast cancer should be based upon a careful physical examination supplemented by simple instrumentation which is available to all physicians. While urging the doctrine of uniformity, this report in itself is an exception. The accuracy of hospital histories being notoriously variable, the inconsistency that so often besets us is well illustrated by the present series. Despite our best intentions of coding breast cancer by stages as recommended by the American Cancer Society and the International Union Against Cancer, we found the hospital case records generally inadequate for this purpose. However, we hope that future surveys from this hospital will report the clinical stages in accord with the following code:

Primary Site:

0	No tumor
1	Tumor infiltrating the primary organ site
2	Tumor of relatively larger size, infiltrating the primary organ site and not extending beyond the adjacent soft tissues
3	Tumor widely infiltrating the primary organ site and extending to neighboring organs
4	Tumor extensively involving adjacent soft tissues or organs

Metastases:

0	None
1	Regional lymph nodes slightly enlarged, discrete and movable
2	Regional lymph nodes considerably enlarged, and fixed either to one another or to adjacent structures
A	Clinical stages confirmed microscopically

A joint committee on reporting cancer end-results has recently recommended "Rules For Reporting Five-Year End Results of Persons with Malignant Neoplastic Diseases." This committee was composed of representatives of the American College of Surgeons, the College of American Pathologists, the American College of Radiology, the American Cancer Society, and the National Cancer Institute.

SUMMARY AND CONCLUSIONS

A long-term follow-up survey of 220 patients with primary breast cancer who were operated upon at the Johns Hopkins Hospital during the period 1935 to 1940 inclusive is reported. A successful follow-up was obtained in 208 patients, or 94.5% of the entire series. All diagnoses were carefully reviewed and verified by histological examination. A special histological study of the surgical specimens from 64 patients known to have survived 10 years or longer was undertaken.

Two hundred and four patients (93%) were treated by means of radical mastectomy, 14 patients (6%) were treated by means of simple mastectomy, and 2 patients (1%) received only local excision. The total five-year survival rate for all patients regardless of the type of surgical treatment or the stage of disease was 43.2%. The five-year clinical "cure" rate—patients living and well without discernible evidence of recurrence or metastases—was 38.2%. The five-year survival rate computed for patients under the age of 40 was only 29.6%, thus indicating a comparatively poorer prognosis for younger women. The five-year survival rate for patients without axillary metastases by microscopic examination in the nodes examined, was 64%; whereas the five-year survival rate for patients with detected axillary metastases was only 31%. The total 10-year survival rate was 29.1%.

The problem of preoperative and postoperative radiotherapy is discussed. A review of the cases of 64 patients with breast cancer who survived 10 years or more failed to reveal any histological characteristics that could be correlated with a favorable prognosis or long-time survival. Despite current clinical experiments with both more conservative and more radical surgical procedures, the classical Halsted radical mastectomy sets a high standard of surgical treatment and remains the operation of choice in most cases of breast cancer.

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18. Lees, J. C., and Lees, T. W.: Numerical Estimation in Cancer and Cancer Treatment, Cancer 3: 377-409, 1950.

Mercury Poisoning.—In industry, mercurial poisoning gives rise to symptoms slowly and insidiously: acute poisoning does not occur. The early symptoms include a metallic taste, salivation and tenderness of the gums. The gums are swollen and bleed easily, and the teeth may fall out: it is not easy to distinguish an early mercurial gingivitis from the pyorrhoea of a neglected mouth. Rarely, a blue mercurial line is seen on the gums, less conspicuous than the line in lead poisoning. The most characteristic symptom is mercurial tremor, one of the oldest known involuntary movements in the history of medicine. It is moderately fine and may be interrupted every few minutes by coarse shaking movements. It usually begins in the fingers, but the eyelids, lips and tongue are affected early. As it progresses, the arms and later the legs are affected so that it becomes very difficult for a man to walk about the workshop and often he has to be guided to his bench. At this state the tremor is so obvious that it is known to the layman as the hatters' shakes. The tremor often passes away if the patient is removed from his work before it has become serious. . . .

In the manufacture of clinical thermometers and in laboratories where mercury is handled extensively, benches should be covered with a smooth impervious surface sloping so as to drain the mercury into a suitable receptacle at the lowest point. The walls and floors should be of impervious material and the floor should be cleansed at the end of each day's work. Thermometers should not be filled without suitable exhaust-ventilation for the removal of mercury vapor. Overalls, mess-rooms and washing facilities should be provided. The mouth and pharynx should be frequently rinsed with a mouth-wash, and the teeth cleaned with a soft tooth-brush and a dentifrice. Periodical medical and dental examination can achieve a great deal, especially by emphasis on the proper hygiene of the mouth. Cavities in carious teeth should be filled, sharp angles smoothed, and stumps and teeth irremediably decayed extracted.—D. Hunter, M.D., Occupational Diseases with Neurological Symptoms and Signs, *The Practitioner*, July, 1953.

THE FAMILY PHYSICIAN AND HEART DISEASE

INFLUENCE OF CLIMATE AND IATROGENIC ASPECTS

CHAIRMAN'S ADDRESS

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A prominent cardiologist in the South asked a group that included several family physicians, "Would you want a general practitioner to attend your grandmother if she had a heart attack?" His answer was no. My answer is yes. In fact, the family physicians of this nation are doing most of the work of caring for grandmother, not only for heart disease but also for the many other diseases that may occur in her age group. He is most valuable in helping her with her anxieties, frustrations, and worries. He is too often the only physician who will answer a call in the middle of the night to see grandmother or any other member of the family.

If the patient is critically ill, the general practitioner must be sure to call a consultant. He must be very sure, however, that he only consults. The family physician must remain in charge as the attending physician and, if the patient is not doing well, ask the consultant to see the patient again, or, if he is unsatisfactory, call in another consultant. It is extremely important that the modern family physician be well versed in the care of cardiac emergencies, since his snap decision concerning diagnosis and treatment may determine whether or not the patient lives or dies. If the patient survives and is hospitalized, I sincerely hope that the family doctor is not practicing in one of those areas in which he will have to turn the patient over to another physician at the hospital.

CLIMATE AND HEART DISEASE

With the recent increase in life span and the almost complete elimination in this country of all major causes of death except vascular disease, cancer, and accident, an increasingly familiar aspect of the American scene has been the annual pilgrimage of cardiac patients to Florida. In view of the usual benefit derived from this pilgrimage, it must be concluded that, in one sense at least, these patients have found that fabulous fountain of youth whose absence so disappointed Ponce De Leon. Although the majority of persons who seek health in our temperate climates have arteriosclerotic and hypertensive heart disease, those with rheumatic and congenital heart disease have come to Florida seeking health in the more kindly climate.

The patient with rheumatic heart disease who comes to southern Florida comes either to alleviate the distress of his advanced vascular damage or to live in a place where the danger of a potentially damaging flare-up of the active rheumatic state would be minimized. He has ample basis in clinical and experimental observation for his confidence in the ability of the Florida climate to help. White states that "Climate appears to be an important factor in the incidence both of rheumatic infection and the rheumatic type of heart disease. In the northern part of the United States the rheumatic infection and its permanent involvement of the heart are five times more frequent than in the southernmost part of the country." Various comparative surveys have shown that the incidence of rheumatic heart disease in Southern California and Arizona is much lower than in colder areas such as Connecticut and Wyoming.

Careful studies by Saslaw on the incidence of rheumatic fever in native school children in Dade County, Florida, have shown that the incidence in this group is much lower than in the rest of the country except in southern Arizona and Redlands, Calif. Further studies by this group have shown that the incidence of rheumatic heart disease in out-of-state school children in Dade County is much greater than in the native children. This is undoubtedly due to the migration of children with rheumatic disease to this area. The low incidence of rheumatic fever and rheumatic heart disease in the native children in Dade County, Florida, and I am sure that this is also true in the remainder of south Florida, is undoubtedly due to the comparatively low incidence of upper respiratory infections, especially those associated with streptococci. The mildness of the climate allows much more time to be spent out-of-doors than in the northern climate. This distinction is especially true in the winter months. This leads to less crowding indoors and less spread of those upper respiratory infections that do exist. It is well known that crowding increases the incidence of rheumatic fever, and that, too often, it occurs in too many members of the same family.

Although the studies mentioned have shown that fewer persons with congenital heart disease move to warmer climates than persons with rheumatic heart disease, there is no doubt that the relative mildness of the climate and the lower incidence of upper respiratory infections makes the lot of the patient with congenital heart disease in southern Florida a less onerous one. There is less possibility of bacterial endocarditis affecting a congenitally malformed valve in the mild climate. The lessened metabolic requirements in the warmer climate undoubtedly diminish the burden for the congenitally inadequate heart that has difficulty maintaining its compensation. Although the persons with rheumatic and congenital heart disease benefit greatly from the mild climate of southern Florida, most of the patients with heart disease who seek help there have hypertensive and arteriosclerotic disease. This sufferer benefits from the climate in many ways. For one thing, he is less susceptible to upper respiratory and pulmonary infections. These infections, in a more unfavorable environment, too often are the precipitating cause of cardiac failure in a person who has been just getting by.

Read before the Section on General Practice at the 102nd Annual Meeting of the American Medical Association, New York, June 2, 1953.

In colder environments, there is a constant stimulation to the thermal regulatory centers, with consequent metabolic stimulation. Along with this stimulation, there is vascular constriction and increased production of the adrenal steroids with their known deleterious effect on the vascular system. The angiospasm resulting from cold is, of course, a well-known phenomenon. Its effect on the patient with angina is too often to increase markedly the incidence of his anginal episodes to the extent that many such sufferers are forced to spend all of their winters indoors. Such persons always benefit greatly from the milder winter climates in south Florida.

The patient with peripheral vascular disease also benefits a great deal from the milder climate. It has been strikingly evident to me that, although many of my patients have moderately severe to severe impairment of their peripheral circulation, their complaints are surprisingly few. Many of these persons suffered considerably because of the impairment of their peripheral circulation before they came to Florida, and there is no doubt that the lack of stimuli to angiospasm with its accompanying disability is due to the milder weather.

Despite the undoubted benefit derived by the person with arteriosclerotic and hypertensive heart disease who flees from the colder northern weather to the more moderate climate, no studies have been made that are comparable to the one made in rheumatic fever. Surprisingly enough, the study that demonstrates best the effectiveness of warm weather in reducing mortality in heart disease is the work done by Brown and Pearson. They analyzed the relationship between mortality due to heart disease and the mean temperatures at various times of the year in New York City. They used mortality statistics for all types of heart disease for the 10 years from 1934 to 1944 and the mortality due to coronary artery disease for the 5 years from 1940 to 1944. These investigators found that there was an 18.8% increase in the deaths due to heart disease in the colder months. They were able to show that the deviation of the average temperature from the yearly average in a month varied inversely with the number of deaths due to all forms of heart disease and also to coronary artery disease. Although the complaint is often made that discomfort in hot weather is due to humidity rather than heat, similar studies showed no direct relationship between the rate of deaths due to heart disease and the humidity, and this was specifically true of deaths due to coronary artery disease. Even though similar studies are not available for southern Florida, comparison of the temperatures at West Palm Beach weather station with those in New York show that the daily maximal, minimal, and mean temperatures in New York City during the months of June, July, August, and September, were of the same order of magnitude as those reported by the West Palm Beach weather station during the months of November, December, January, February, March, and April. May and October, although somewhat warmer, are not appreciably so, since the averages are only 3 to 4 degrees higher in those months than at the peak of the New York summer, July, when according to the mortality statistics the deaths due to heart disease are minimal. Studies in southern Florida similar to those made in New York are not practical for several obvious reasons. The population varies a great deal between summer and winter, and mortality statistics using the so-called fixed population as a basis would be inaccurate. In addition, the many persons with known heart disease who come to this area because of the mild winters, and who die here despite the climate, would also render the results unreliable. In comparison of cardiovascular death rates in states with more stable populations, it is found that the rate in New Hampshire is 644.7 per 100,000, but 231.3 per 100,000 in New Mexico.

A discussion such as this would be incomplete without mention of the work done by Dr. George Burch on the effect of subtropical climate on congestive heart failure. His studies were made under conditions of controlled temperature and humidity. He found his cardiac patients were very comfortable and did best at temperatures from 68 F to 72 F, averaging 70.3, with humidity ranging from 48 to 72%, averaging 60.2%. When he subjected these patients to temperatures ranging from 99.0 F to 108.3 F, with an average of 104.3, they were extremely uncomfortable and at times acute congestive failure was induced. When the temperature ranges in his experiments are compared with those reported from the West Palm Beach weather station, the temperatures he reported as optimal for comfort, namely, from 68 F to 72 F, are found to be of the same order of magnitude as the mean temperatures for the months of November through April, since these were 68 F to 74.1 F. The relative humidities reported during these months, taken at 1:30 p. m., are close to those reported by Burch as being most comfortable. The temperatures found to be so deleterious, that is, temperatures ranging from 99 F to 106 F with a mean of 104.3 F, are considerably higher than those experienced in Florida and the Caribbean area, since the average maximal temperatures in the hottest months, July and August, never go above 92 F and the means never above 83 F. In his study Burch must have used the temperatures of his home city of New Orleans when he cited temperatures between 99 F and 108 F.

IATROGENIC HEART DISEASE

Another type of heart disease is iatrogenic heart disease. Iatrogenic means "caused by a physician." Iatrogenic heart disease is an illness in which symptoms referable to the heart, or symptoms interpreted by the patient as such, are produced as a result of the words or actions of a physician. It is of importance for the following reasons: 1. The disease produces considerable morbidity and may easily be more disabling than the average case of organic heart disease. 2. The disease should be and is preventable. 3. The treatment of the disease is specific and differs from the management of any other type of cardiac disorder.

In the American Heart Association classification, iatrogenic heart disease is listed under effort syndrome (neurocirculatory asthenia), psychoneurosis, or both. Iatrogenic heart disease, however, has significant characteristics warranting its separation and especial emphasis. First, the cause is distinct as set by definition. While some patients may have deep-seated personality disorders, the precipitating factor in all cases is the action of the physician and many times it is the sole factor. Second, and as a natural corollary, therapy is ordinarily directed on a superficial plane, psychiatrically speaking, with emphasis on encouragement and reassurance rather than on deep psychological probing. Third, and most important, separation of the disease points up the responsibility of the physician in its production and gives hope that the physician so forewarned will be less likely to cause the disease in the future.

There are no statistics to my knowledge to indicate the frequency of this condition, but several reports suggest its magnitude and importance. Oille stated, "Almost 60% of patients who consult a cardiac specialist are suffering either from an exaggerated or wholly unnecessary anxiety about their hearts, arising from suggestion and not based on reason. . . . Most of the suggestions arise from the careless or ill-considered remarks of doctors." In a classic paper on the influence of psychic factors in cardiac disorders, Conner featured the iatrogenic cause as the most important of the four factors that may produce a cardiac neurosis. Friedman states in his monograph on functional cardiovascular disease that "Unfortunately at least 10% of the hundreds of cases seen by the author were either caused or 'fixed' by some physician." One of the finest studies made of the condition labeled by the American Heart Association as "effort syndrome (neurocirculatory asthenia)" was reported by Wood in 1941 under the designation "DaCosta's syndrome." He concluded that this is invariably a psychiatric illness, though often it is overlaid on other predisposing factors, such as family history, constitutional factors, or debilitating illness. Wood made a detailed study of 100 unselected cases and reported that "DaCosta's syndrome may be induced by the doctor or by some other person in authority or it may be self-induced. The doctor was responsible in 17 cases and was an important factor in 16 others." It is evident from these references that iatrogenic heart disease is of considerable importance in clinical practice. It is also evident that this disorder is being submerged in larger categories, whereas it should be singled out for special attention. The most recent report was from the Work Classification Unit in New York, where persons were referred because of employment difficulties attributed to heart disease. It is amazing that, out of 631 persons who were adequately studied, 175 (or 28%) were found to have no heart disease at all. The authors point out that iatrogenicity was a major factor in the disability of a substantial number of these patients.

The pathogenesis of iatrogenic heart disease is quite clear. By definition, the etiological agent is the physician. From him the patient receives the impression that he has heart disease. This may occur through direct statements or actions or indirectly by the patients' interpretation of certain words or acts of the physician. It is well-known that the common reaction of the patient on receiving a diagnosis of heart disease is fear. Persons vary in their responses, depending upon their personal make-up, their life experience, and their situational reactions. The general tendency of fear is to produce the combination of psychological and physiological manifestations commonly termed "anxiety neurosis" or "neurocirculatory asthenia." Unfortunately, the symptoms are of such nature as to suggest to the patient that they arise because of disturbed cardiac function. As a result a vicious circle is set up, consisting of anxiety-producing symptoms that in turn produce anxiety. There is seemingly no effective homeostatic mechanism at work. The very patient who is most fearful of heart disease is the one most likely to have symptoms that further fix the thought of heart disease in his mind and perpetuate his fears.

MANIFESTATIONS

In investigation of the cause of chest pain, inquiry is of the utmost importance. It is often surprisingly difficult to get a patient to outline on his body the painful area, and location alone may reveal whether a pain is or is not due to cardiac disease. For example, a pain located in an area below either nipple, i. e., between the nipple and the costal margin, is almost never of cardiac origin, whereas a transverse pain across the body below both nipples is often cardiac. Submammary pains are very common, especially in women, and are very difficult to explain. Some are root pains, because spinal movements induce them. Some may be due to cholecystitis, because at times pressure over the gallbladder area produces pain below the left nipple. In most of them, however, no clue can be found to explain their cause. These pains last for hours at a time and have no relation to effort, eating, breathing, or anything except perhaps fatigue. They certainly are not important or serious; they may come and go for 15 years or more. The second location of pains that are not due to cardiac disease is outside either nipple. A general principle regarding location is that midline or symmetrical pains across the chest are more likely to be of cardiac origin; the farther out from the midline a unilateral pain occurs, the less likely it is to be cardiac pain. When pains occur outside either nipple they are not due to cardiac disease.

Of course, not all substernal pains are of cardiac origin. Some are spondylitic. Root pains in spinal arthritis may be located anywhere below the chin. Another clue may be found on inquiry about location, namely, that they shift. They occur in multiple areas and these areas change from time to time, in months or years. One must always keep asking "Where else does the pain occur?" because the last of several pains to be mentioned might be angina.

Shooting or stabbing pains are a common complaint, and in my opinion momentary sharp stabs of pain are never cardiac. They may appear repeatedly in the same location or may be felt in several different locations. They may occur as isolated stabs or as a series of sharp jabs. Especially when they are located somewhere over the left anterior chest or axilla, they not infrequently make the patient feel concern regarding his heart. Certainly angina is never a shooting or a stabbing pain that lasts for only a few seconds. Angina is a wave of distress. It begins slightly at first, increases to a maximum, stays the same for a variable time, then dies down gradually. It is extremely difficult to establish a cause for this form of distress. It occurs most commonly in persons with spondylitis and appears with certain types of work movements, or it is related to posture, such as sitting at a desk or lying in bed. It may be present in persons with almost any form of disease, but it is also frequently found in persons in whom no functional or anatomical disorder can be found.

The pain of spondylitis is usually unilateral but occasionally occurs in the midline or bilaterally and is characterized by its variability. It changes in character in the same person at different periods, from a burning to a pressure to an ache or sharp stab. It lasts any length of time, from a second to several days or even months. It occurs in different places in the chest from time to time, as well as in other parts of the body. It is these variations in character, duration, and situation that distinguish it from angina. A patient with angina has the distress in the same situation, of the same character, and for the same duration on each occasion. Spondylitic and skeletal pains are frequently worse in bed or other special postures and are often induced by some special movement rather than the degree of exertion. They may be localized to a very small area, or they may involve one-half of the chest. They spread to different parts of the chest and arms in a most unaccountable fashion. They may follow the direction of the interspaces or go directly across the interspaces and have no apparent relation to the nerve segments. Another characteristic of these pains is that they are periodic and may be absent for weeks or months at a time only to recur at some future date. Sometimes root pains are very definitely constant in character, and their localization does not shift. A pain due to root neuritis that is well localized and constant in character and radiation strongly suggests that the cause is a local lesion such as a tumor or an extruded intervertebral disk. On the other hand, most of the discomforts attributed to root neuritis are due to osteoarthritis of the spine. This process is usually fairly widespread, producing more diffuse symptoms that tend to vary in character, paralleling the natural exacerbations and remissions of this disease.

Many patients and physicians think that a pain down the left arm or both arms means the pain is due to cardiac disease. This is far from true. Most pains starting on the left side of the chest and going down the left arm are not cardiac but skeletal in origin. However, radiation down the arm, or arms, is of extreme importance when there is also a pain across the epigastrium, which could be due either to some disease below the diaphragm or to coronary disease. If it goes down the arm, it is not of gastric or gallbladder origin and is nearly always cardiac, with the exception of pain due to hiatus hernia. Pains of this origin have been noted radiating down to the elbows. Chest pain radiating to the neck and jaw or teeth is almost always cardiac. Localized tenderness is of some value as a differential sign. Hyperesthesia occurs with the pain of angina, but persists only the few minutes that the pain lasts. It also occurs with the pain of coronary thrombosis but lasts only a few days, never months or years as occurs very frequently in the case of root pain.

Some patients with neurotic pains say that walking brings them on. In such a case, it should be determined whether there is any regularity in the amount of effort required to induce the pain; angina requires an approximately fixed degree of exertion and time to be induced. In a case of noncardiac pain simulating angina, it will be found likely that some days the pain comes as soon as the patient starts to walk and that on a good day he can walk any distance without pain. Next, the constancy with which the pain occurs should be ascertained. Does it occur every time he walks the same distance at the same rate? Arthritic or neurotic pains do not occur with a regular amount of exercise and with the constancy that angina does.

DIAGNOSIS

Diagnosis is based on three criteria: 1. The patient must have symptoms. 2. The symptoms must be due to fear of heart disease, brought about by the words or acts of the physician. 3. The heart itself must be normal, though there may be a questionable or equivocal symptoms or findings. Indeed persons with equivocal findings that lead to the erroneous impression of heart disease will perhaps constitute the majority. Among these are the persons with innocent murmurs, minor electrocardiographic variations, unimportant blood pressure fluctuations, and benign arrhythmias. Then too, there is a large group of persons with normal cardiovascular findings but with cardiac-like symptoms of noncardiac origin. This group includes among others those with thoracic pain of gastrointestinal or nerve root origin and, importantly, those whose original symptoms are due to anxiety neurosis.

TREATMENT

Successful treatment depends on successful reassurance of the patient. To this end it is necessary that the physician undertaking this treatment conduct an examination sufficiently exhaustive to convince himself and perhaps even more, the patient, that the heart is sound. This is one time when the use of all the supplementary tools of cardiovascular study can be encouraged, because of the extra authenticity it lends to the examiner's pronouncements. The treating physician has a factor in his favor if the patient originally considers him to be a higher authority than the physician who provoked the fear of heart disease. In the absence of such prestige, however, an efficient, thorough examination will go a long way toward impressing the patient that the final diagnosis is based on a firm foundation. The reassurance to be effective must be clear cut. There can be no hedging. Alvarez states, "A physician is never going to cure neurosis unless he is positive when he says that the examinations showed nothing wrong. If he hedges and straddles and tries to keep a line of retreat open in case things go wrong, the worried patient will never be cured." As far as possible the differing medical opinions the patient has received should be reconciled, not only because it is tactful but also because it may make the patient's acceptance more likely. There are times, however, when such reconciliation cannot possibly be made but the physician must bluntly and firmly disagree with the pronouncements of a previous medical attendant. Under such circumstances there is no other course to follow, because the first concern must be the patient's health.

Along with emphatic reassurance as to the soundness of his heart, the patient should be made to understand how his symptoms have resulted from his fears. The simple admonition "It's all in your head" or "It's just your nerves" is entirely inadequate. As a matter of fact, it is often worse than useless, actually serving to make the patient refractory to further suggestion, since he is apt to feel that such a statement implies low intelligence, weak will power, nonexistent symptoms, or even willful malingering. I have a notion that the patient is entitled to such an attitude, for the practitioner who brushes him off in that manner is actually likely to feel just that way about the neuroses. The physician must first of all accept, and convince the patient that he accepts, the symptoms as being real. Then he must point out to the patient that the symptoms are caused not by any disease of the heart but by fear. The physician should explain briefly or fully, according to the intellectual capacity of the individual patient, the mechanisms whereby fear can produce the symptoms he experiences. The patient must be made to know that his symptoms are not dangerous to life, regardless of how distressing they may be subjectively. He should know that the symptoms will leave if his fears are relieved but may persist if he retains any fear at either a conscious or a subconscious level. It is important that he be instructed to carry on in spite of his symptoms, should they occur. Any attempt at compromise, as by instruction to "take things easy," or by giving a "little heart tonic," may be disastrous by negating the assurances of cardiac soundness. There are times when the patient must be unqualifiedly assured that his heart is absolutely normal when actually there may be slight doubts in the mind of the physician and, incidentally, in the private records. If kept there, the doubts will not harm the patient, but if they are transmitted to him, they may well defeat all the therapeutic efforts.

PREVENTION

Prevention is the most important aspect of the entire problem, since iatrogenic heart disease is potentially 100% preventable. Probably the most fruitful approach is to analyze the various reasons why the physician erroneously makes the patient feel that heart disease is present, since recognition of each reason will automatically suggest its remedy. There are five possible initiating factors: (1) misinterpretation by the patient of innocuous statements; (2) ill-considered remarks of the physician; (3) ill-considered acts of the physician; (4) error by the physician in interpreting symptoms; and (5) error by the physician in interpreting findings.

1. The problem of the patient's misinterpretation is common to every phase of medicine. An earnest practitioner may say to a patient that his heart rate is slow, his heart is small, or his blood pressure is low, in each case knowing that the finding is a favorable one. Not understanding this, the patient may interpret it in an unfavorable light and thereafter feel certain that the physician told him he had heart trouble. The physician who is constantly aware of this danger, however, will take pains to speak in such a way that his remarks cannot be misinterpreted. In the example cited, the careful physician would explain that the slow rate, small heart, or low blood pressure is the ideal finding that he sought and that convinced him that the heart is normal.

2. A second method by which iatrogenic heart disease can be initiated is through the ill-considered remarks of a physician. It would be merely scratching the surface to list such examples as "I never saw a worse heart than yours," "You have six months to live," or "You might have a stroke any minute." The remedy again is caution in speaking to patients. One should be immeasurably more careful to avoid making tactless statements that, even at face value, will produce unwarranted distress.

3. In the third method, the physician must be a professional careful actor under the critical scrutiny of the patient. If he listens too long or is too meticulous in the opinion of the patient, the latter may become panicky. He will think the physician has really found something seriously wrong, when actually the physician is making his best effort to do a good job. Do not advise rest for any cardiac patient unless it is indicated. Encourage the cardiac patients to perform physical activity just short of their level of tolerance as determined by their own symptoms.

4. In the fourth method, symptoms such as pain, breathlessness, palpitation, fatigue, dizziness, and fainting should not be misinterpreted. Careful analysis of these symptoms plus the entire process of history taking and examination must be thorough for detection of the significant clues to the proper diagnosis.

5. For the fifth method, the physician must have enough basic knowledge of diagnostic fundamentals. He should have relatively as much "cardiac" knowledge if he is going to diagnose heart disease as he would wish to have "surgical" knowledge if he were going to open the abdomen. It is certainly tragic to impose needless restrictions on cardiac patients.

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Protecting the Worker.—Whatever method is used to obtain quantitative data on the conditions of workers exposed to chemicals, it should lead to frequent observation of each worker by the plant physician who will be able to see when the workers are failing in health. By frequent contact with the men, and particularly contact on the job, he will gain their confidence. This will have two results: Not only will the morale of the individual worker be raised, but he will tend to come to the physician and to tell him of factors in both his industrial life and in his home life which may be of the utmost importance in controlling the health in the plant. In these days of a 40-hour workweek, only the smaller fraction of a worker's life is spent in the plant. That part spent out of the plant is at least as important in conditioning the worker's total health and his ability to resist hazards from chemicals as is that part spent in the plant. Any procedure that will help the physician to gather information about the total life of the worker is essential to a satisfactory program of conservation of health. In industry we are studying the whole man. Data from clinical study of sick people are not necessarily directly applicable to the healthy worker. Treatment of infections has so advanced in recent years that diseases of stress are assuming greater importance than diseases caused by bacteria or poisoning. Such diseases are due to our attempt to live with our environment, often with an environment which we ourselves manufacture. In the study of the basic factors entering into degenerative diseases, industrial medicine conducted in the manner I have suggested is at the forefront of medical research.—John H. Foulger, M.D., Physiologic Effects of Certain Explosives and Chlorinated Hydrocarbon Solvents, *United States Armed Forces Medical Journal,* October, 1953.

CHRONIC PROSTATITIS, A UROLOGIC QUANDARY

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Although prostatitis has been recognized for more than a century, little change in therapeutic methods has been made in the past 50 years. In 1893, Fenwick reported good results with measures such as cold enemas, blistering, tonics, sitz baths, and so forth. More enthusiastic reports of current forms of treatment have been rare. The explanation of this is not clear. Chronic prostatitis is often refractory to the best of modern methods of treatment. All too often patients, suddenly aware of their prostatitis, become prostatic cripples through injudicious, prolonged, and unsatisfactory therapy. In spite of the mass of literature on the subject, too little is known about the process. Treatment often becomes stereotyped. Sir Henry Thompson, in 1860, listed certain causes of chronic prostatitis and, with minor variations, these have persisted in medical literature.

Suspecting that all prostatitis is not the same, we collected a series of cases of chronic prostatitis. Each patient was examined from many aspects in the hope of uncovering further information regarding etiological factors and the true significance of the condition. We hoped, also, to perfect a method of study that would help determine which patients require treatment and the type of treatment most likely to succeed for each.

MATERIALS AND METHODS

The patients were essentially unselected; the only requirement was that a minimum of 20 pus cells per average high-power microscopic field be found on two examinations of prostatic secretion. Consequently 105 patients, who were seen over a five month period, were studied.

All patients were referred to the section of urology from other departments of the clinic for a "prostate check." The group included patients with a history of prostatitis, fertility problems, unexplained pyuria, and symptoms suggestive of prostatitis, and patients who were examined at their own request or were sent for investigation of the prostate as a source of focal infection. A complete urologic history was taken, and the genitalia and prostate were carefully examined. Studies of the urine were made along with microscopic analysis of the prostatic secretion. This investigation took place on two successive days, and each patient was seen by at least two physicians.

Clinical Study.—In many instances, the record covered general and prostatic examinations over a period of 20 to 30 years. Because we believe that chronic prostatitis is a poorly defined entity, extensive study of clinical features was made in the hope of finding a common denominator that would not only correlate the cases but also determine some of the etiological factors.

Bacteriological Study.—As has been indicated, a diagnosis of chronic prostatitis was established first by finding an excessive number of leukocytes in the prostatic secretion. Then the bacteriological investigation was undertaken. The complete results of this portion of the study will be reported at a later date. For collection of prostatic secretion for culture, a routine procedure was adopted. 1. On a day following the first examination, a secondglass urinary specimen was collected for culture. Blood agar and eosin-methylene blue plates were inoculated with this urine. 2. The glans penis was then cleansed with 50% alcohol, the meatus compressed between sterile pieces of gauze, and the prostate thoroughly massaged. 3. Releasing pressure on the glans, the secretion was collected in a sterile test tube for culture. (Blood agar, eosin-methylene blue, and two anaerobic broths were employed as mediums.) 4. A final drop of secretion at the meatus was placed on a glass slide, with coverslip, and was studied as a wet smear under a high-power lens. The secretion was graded 2, 3, or 4, according to the number of pus cells observed in the average field. 5. The drop of secretion was then smeared over the slide by means of the glass coverslip and was allowed to dry. After it had remained in equal parts of ether and 95% alcohol for one hour, it was stained by Gram's method and was examined under an oil-immersion lens. Although the procedure entailed many steps, the results were often enlightening.

RESULTS OF THE CLINICAL STUDY

Age.—Chronic prostatitis may be found at any age after puberty. The influence of age is shown in this series of 105 cases, in which 85% of the patients were more than 40 years of age. We have always been reluctant to apply massage to the prostate of an elderly patient or to a hypertrophied prostate. In spite of the fact that this reluctance caused a number of elderly men to be excluded from the study, 19% of the patients were 60 years of age or older. Only 4% of the prostatitis in this series occurred in men who were less than 30 years of age.

History of Prostatitis.—To conclude that prostatitis is primarily a disease of the middle aged or the elderly, nevertheless, would be erroneous. Almost 60% (61 patients) gave histories of prostatitis, diagnosed either at this clinic or elsewhere. Twenty-four of these had been aware of this condition for 10 years or more. The longest history of chronic prostatitis was 33 years, but five patients had been treated intermittently for approximately 30 years. Eight years was the average duration for the 61 patients who gave histories of prostatitis. A diagnosis of prostatitis had not been made prior to this examination for the remaining 40%.

Summary of Treatment.—Most of the patients who gave histories of prostatitis had received treatment.

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This paper is based on a thesis submitted by Dr. Ghormley to the faculty of the University of Minnesota in partial fulfillment of the requirements for the degree of master of science in urology.

Intermittent courses of massage were used more than other methods of treatment and had been given to 80% of this group for varying periods of time. Thirty-three per cent had received chemotherapy for their prostatitis, while 25% were treated with urethral instillations and local medication. The use of urethral sounds was recorded in only 10% of the cases. Surgical procedures were rare. Two patients gave histories of vasectomy, and there was one instance each of epididymectomy, urethral cauterization, and transurethral resection of the prostate.

History of Gonorrhea.—Forty of the 105 patients in this series admitted having had at least one gonorrheal infection (38%). A smaller percentage of this group reported multiple attacks; one patient claimed he had been infected 8 or 10 times.

Symptoms in Group of Patients with Prostatitis

Symptoms	No. of Patients
Asymptomatic	24
Lower urinary tract	
Dysuria	23
Urethral discharge	21
Frequency	14
Poor stream	9
Nocturia	7
Hesitancy	4
Pain (all varieties and locations)	
Perineal	13
Low back	11
Arthritic	6
Low abdominal	6
Penile	6
Rectal discomfort	5
Generalized backache	5
Joint and muscle	4
Testicular	4
Ejaculation	1
Neurotic manifestations	
Tension state	5
Hypochondria	5
Impotence	3
Sexual fixation	1
Genitourinary bleeding	
Hematuria	4
Hematospermia	1
Miscellaneous	
History of pyuria	12
Chills and fever	5
Recent epididymitis	3
History of prostatic calculi	3
History of trichomonas	2

Findings on Digital Examination.—Rectal examination of the prostate was not diagnostically helpful in this study. In every instance, the prostate was examined digitally and was evaluated according to size, consistency, and the patient's sensation. Enlargement was graded 1 to 4. A prostate of grade 1 enlargement was considered to be of nearly normal size and of no particular pathological or clinical significance. In 85% of cases, the prostate was considered either of normal size or minimally enlarged. Thirteen per cent of the prostates showed moderate hypertrophy; none were judged larger than grade 2.

Fifty-five per cent of the prostates of this series were considered to be of normal consistency. Twenty-eight per cent were described as "boggy" and the remaining 17% as "firm." Seventeen per cent of the patients were believed to show evidence of increased prostatic sensitivity. Rectal examination is uncomfortable, however, and the patient is likely to wince. Except in extreme cases, therefore, the significance of the patient's sensation seems questionable.

Grade of Prostatitis.—All patients in this series had prostatitis of grade 2, 3, or 4. The prostatic secretion was studied microscopically under the high-power magnification, and the following estimate was used: Normal, 0 to 6 pus cells per high-power field; grade 1, 7 to 20 pus cells per high-power field; grade 2, 21 to 50 pus cells per high-power field; grade 3, approximately three-quarters of an average high-power field occupied by pus cells; and grade 4, average high-power field solidly packed. According to this scale, in 45% of cases, prostatitis was interpreted as grade 2; in 27%, as grade 3, and in 28%, as grade 4. This evaluation was relatively accurate because the secretion was examined on at least two occasions in the course of the examination.

Association of Prostatitis with Pyuria.—Pyuria might be anticipated in the presence of large amounts of purulent secretion in the prostate. The routine morning specimen was examined prior to prostatic massage. The following system of grading was employed to estimate the degree of pyuria in a sample of centrifuged urinary sediment: Negative, no pus cells; occasional, 1 to 3 pus cells per high-power field; pus grade 1, 4 to 20 pus cells per high-power field; pus grade 2, 20 to 50 pus cells per high-power field; pus grade 3, three-fourths of average high-power field occupied; and pus grade 4, average high-power field packed. In 35% of 101 cases, smears of the urine were negative or contained only an occasional pus cell. Pus was of grade 1 in 39% of cases, grade 2 in 19%, grade 3 in 7%, and grade 4 in only 1 case.

There was little correlation between the degree of pyuria and the degree of prostatitis. Of the 101 patients, the 55 with grades 3 and 4 prostatitis were variable with respect to pyuria. In 58% of this group, the urine was essentially normal, or pyuria was mild or grade 1. Only 11% of the patients had grade 3 pyuria.

Symptomatology.—Textbooks are vague concerning the symptomatology of chronic prostatitis. No characteristic pattern of symptoms could be found in this group of patients. A list of 27 different symptoms or pertinent findings was compiled from the histories. Many patients had multiple symptoms, some had only one symptom. The largest single group was asymptomatic. In an effort to achieve some semblance of order, the symptoms were broken up into classes. These are listed, together with the number of patients who gave histories of each complaint, in the table.

No correlation could be found between the grade of prostatitis and the presence or extent of symptoms. Frequently a patient with mild prostatitis had multiple symptoms, while one with severe prostatitis was asymptomatic. Although the preponderance of patients with many symptoms had received considerable treatment for their prostatitis, there was an appreciable number with few or no symptoms who had received extensive therapy over many years. No psychiatric evaluation of the patients in this series was attempted. Many of those with the most exaggerated symptoms, however, showed a considerable element of psychoneurosis. Bizarre symptoms of these patients multiplied with therapy, and their concern grew with each prostatic massage.

RESULTS OF BACTERIOLOGICAL STUDY

As has been said, a detailed report of the results of this study will be published at a later date. Several observations were made, however, that are of general interest. Although an extensive bacteriological investigation would be impracticable in every case of prostatitis, there are instances in which it is a decided advantage to have this information. By means of cultures of the prostatic secretion and urine and smears of each secretion stained with Gram's stain, the data comprising this important portion of the study were assembled.

Bacteria Isolated from Prostatic Secretion.—Of the 105 patients in this series, bacteria were recovered on culture of prostatic secretion of 91.5%; there was no growth on any medium from the prostatic secretion of 8.5%. Contrary to several reports, mixed flora were frequently encountered in our series.

On the basis of usual clinical experience, the bacteria were arbitrarily divided into three groups: recognized pathogens, nonpathogenic bacteria, and a small, miscellaneous group that might be considered pathogenic. The pathogenic bacteria included Escherichia coli, Streptococcus faecalis, Aerobacter aerogenes, Pseudomonas aeruginosa, and Micrococcus pyogenes. The nonpathogenic bacteria included Micrococcus (species undetermined), alpha hemolytic Streptococcus, Corynebacterium, and nonhemolytic Streptococcus. The miscellaneous group included anaerobic and rare species of bacteria.

Only 36% of the total number of bacteria cultured were pathogenic, while 60% were nonpathogenic. The bacteria most frequently found were nonpathogenic micrococci; these accounted for 40% of the total bacteria identified, or 69% of the nonpathogenic group.

Bacteria Isolated from Urine.—The urine of all but two patients of this series was cultured. Cultures of the urine of 34% of the patients gave positive results, while those of 66% gave no growth. The bacteria also were divided into pathogenic and nonpathogenic groups. Sixty-three per cent were classified as pathogenic, while only 37% were considered nonpathogenic.

After studying individual cases, it was discovered that, while 60% of the pathogens cultured from the prostatic secretion were also cultured from the urine, only 15% of the nonpathogenic prostatic bacteria were present in the urine. In order to determine the clinical significance of a pathogenic organism found in both the prostatic secretion and the urine, the symptoms of the 25 patients with both prostatic and urinary pathogens were reviewed. Of this group, 64% complained of either dysuria or a recent genitourinary infection (for instance, acute epididymitis). Whether the prostate became involved primarily or secondarily could not be determined.

Prostatic Secretions with Negative Cultures.—Cultures of the prostatic secretion of nine patients in this series were bacteriologically negative. The degree of involvement was variable, with an equal number having prostatitis of grade 2, grade 3 and grade 4 on the basis of examination of a wet smear. Culture of the urine of all nine patients gave no positive results. The symptomatology was complex and showed no correlation. Although four of the patients were asymptomatic, several of the worst problems, psychologically and otherwise, were encountered in this group. Five of the nine patients gave evidence of an anxiety state or of severe psychoneurosis. Two patients had received chemotherapy not long before the prostatic examination for symptoms suggestive of acute inflammation of the lower part of the urinary tract. It is appreciated that bacteria might well have been present prior to this treatment.

Gram-Stained Smears.—Smears of all prostatic secretions were stained with Gram's stain. These smears were studied independently, without knowledge of the flora obtained on culture. This examination was thorough, time-consuming and, no doubt, overzealous on occasion. In most cases, results of examination of the smears were unequivocally positive or negative, and the bacterial types were easily recognized. Results of examination of 20% of the smears significantly disagreed with the results of culture. The source of this error was not always apparent. In some instances, however, the smear seemed more informative than the culture.

Pathogenic Prostatic Bacteria with Negative Culture of Urine.—True "bacterial prostatitis" could be assumed to be present if a patient's prostatic secretion gave a positive culture but his urine a negative one. Only 13 patients had pathogenic organisms in the prostatic secretion and also passed urine from which no growth could be obtained. They represented all grades of prostatitis and a variety of bacteria. Some were asymptomatic, but the remainder had a wide variety of symptoms, seemingly unrelated. Esch. coli were found in the prostatic secretion of two patients with histories of intermittent dysuria.

Infestation with Trichomonas.—Apparently only 104 cases of infection with Trichomonas vaginalis in the male had been reported by 1938. In 1944, however, Roth demonstrated this to be a common venereal infection of Negro men. Six cases of infestation with Trichomonas were encountered in this investigation. All of these patients were white, and the protozoans were present in the urine. Organisms were seen in the prostatic secretion of three of these men.

Pleuropneumonia-like Organisms.—At the conclusion of the bacteriological study, the prostatic secretions of 25 additional patients with prostatitis were cultured for pleuropneumonia-like organisms. Although some cultures were not satisfactory because of overgrowth of various bacteria, three positive cultures were obtained.

COMMENT

The primary purpose of this investigation has been to survey many aspects of chronic prostatitis in order to determine what may be the causative factors. To accomplish this, 105 patients were carefully studied. The data collected fell into two categories, clinical features and a bacteriological study. It readily became apparent that a simple, concise definition of the etiology of prostatitis was not feasible. Although chronic prostatitis frequently is spoken of as a "disease," no pattern of symptoms is characteristic, and most cases have little in common. Consequently, generalizations as to etiology, symptomatology, prognosis, or treatment seem not only misleading but superfluous. Reduced to simplest terms, prostatitis is an inflammation of the prostate gland characterized by an excessive number of leukocytes in the prostatic secretion. The finding of pus cells in the prostatic secretion was the only characteristic all patients had in common. Etiological factors of chronic prostatitis should be found in the sources of this inflammation.

The majority of patients in this series were more than 40 years of age. Age, therefore, seems to be a factor in the incidence of prostatitis. This can be explained in several ways. A large number of middle-aged or elderly men had a history of prostatitis of many years' duration. Added years provide patients with an extended opportunity for exposure to agents that cause prostatitis or to the physician's finding it. The diminishing sexual activity of increasing age may be of some significance. Likewise, structural changes in the prostate, which accompany benign hypertrophy, undoubtedly interfere with normal function of the gland. Age may make the prostate increasingly vulnerable to prostatitis.

The role of gonorrhea in the etiology of prostatitis frequently has been stressed. Only 38% of the patients in our series admitted previous gonorrheal infection. The urethral trauma incident to former methods of treatment no longer occurs. With chemotherapy available, prostatitis should be seen much less often as a sequel of gonorrhea.

Laboratory study of prostatitis has been limited, in large part, to cultural, serological, and immunological investigations. Because of the trend of this research, chronic prostatitis has been primarily regarded as a bacterial inflammation. Unlike other bacterial infections, the results of chemotherapy have been disappointing. The relationship of bacteria to prostatitis is not clear. In the present study we have tried to broaden the scope of the bacteriological investigation in an attempt to demonstrate this relationship.

More than 90% of the secretions cultured were bacteriologically positive. Of the bacteria recovered, 36% were recognized pathogens, while 60% were bacteria usually considered to be nonpathogenic. Compared to the high percentage of positive prostatic cultures, 33% of the patients had positive urinary cultures. Only 15% of the large group of nonpathogenic prostatic bacteria were recovered from the urine, while, in striking contrast, 60% of the prostatic pathogens were found on culture of the urine. Two-thirds of those with pathogenic organisms in both prostatic secretion and urine gave histories of dysuria or a recent genitourinary infection in addition to their prostatitis. Bacteria may well play an important causative role in this group of patients, and trial of chemotherapy would seem indicated notwithstanding the current disappointing reports of such treatment.

Cultures of prostatic secretion and urine of nine patients in this series gave bacteriologically negative results. They represented all degrees of prostatitis and they had a wide variety of symptoms. More than a third of the positive prostatic cultures were bacteriologically insignificant and presumably were attributable to contamination. With this large group in mind, it was our impression that chronic prostatitis is not always attributable to bacterial infection. Amicrobic prostatitis may well explain past failures of chemotherapy.

CONCLUSIONS

The quandary of chronic prostatitis is difficult to resolve. Although the diagnosis is easily made, there are no characteristic physical findings or symptoms. Treatment, while stereotyped, is frequently unsatisfactory. Chronic prostatitis is widespread and too often becomes an obsession of the hypochrondriac. As encountered, the prostatic cripple is the product of injudicious and prolonged therapy. All prostatitis is not the same and its significance is variable. A more critical approach to the individual case will prove beneficial, not only to the patient but to his physician as well.

CLINICAL NOTES

NEPHROTIC SYNDROME OCCURRING DURING PARAMETHADIONE THERAPY

REPORT OF A CASE WITH CLINICAL REMISSION

James C. Wren, M.D.
and
Robert L. Nutt, M.D., Englewood, N. J.

Three cases of a nephrotic-like syndrome appearing in patients taking trimethadione (Tridione) have been reported. In May, 1948, Barnett and associates[1] reported the case of a 16-year-old girl who had been taking trimethadione for eight months when massive edema, 4+ proteinuria, hypoproteinemia, and hypercholesterolemia appeared but results of renal function tests were normal. In this case nephrosis occurred two additional times, both following further courses of the drug.

In February, 1949, White[2] reported a similar case in which a 20-year-old man in whom massive edema, 4+ proteinuria, hypoproteinemia, and hypercholesterolemia developed following a 10 month course of trimethadione. As in the case of Barnett and co-workers,[1] the edema, proteinuria, and abnormal blood chemistry reverted to normal within six weeks after withdrawal of the drug.

Briggs and Emery[3] reported a case in which a nephrotic syndrome developed after trimethadione therapy for four months. This child did not have a clinical remission after withdrawal of the drug. The child died eighth months after the onset of the nephrosis. Abbott and Schwab[4] thought this might have been a case of chronic glomerulonephritis.

Davis and Lennox[5] attributed a case of nephrosis to paramethadione (Paradione). This case was not reported

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From the Medical Service of the Englewood Hospital. Attending Physician (Dr. Wren) and Medical Resident (Dr. Nutt).

[1] Barnett, H. L.; Simons, D. J., and Wells, R. E., Jr.: Nephrotic Syndrome Occurring During Tridione Therapy, Am. J. Med. **4**: 760-764 (May) 1948.

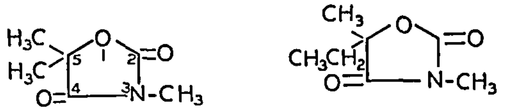
[2] White, J. C.: Nephrosis Occurring During Trimethadione Therapy: Report of a Case, J. A. M. A. **139**: 376-377 (Feb. 5) 1949.

[3] Briggs, J. N., and Emery, J. L.: Toxic Effects of Tridione, Lancet **1**: 59-62 (Jan.) 1949.

[4] Abbott, J. A., and Schwab, R. S.: Medical Progress: Serious Side Effects of Newer Antiepileptic Drugs; Their Control and Prevention, New England J. Med. **242**: 943-949 (June) 1950.

[5] Davis, J. P., and Lennox, W. G.: Comparison of Paradione and Tridione in Treatment of Epilepsy, J. Pediat. **34**: 273-278 (March) 1949.

in any detail, only alluded to, so to date no fully documented case of a nephrotic syndrome appearing in a patient receiving paramethadione has been reported. It is easily conceivable that a drug so closely related to trimethadione as paramethadione could also produce a toxic nephrosis. The diagrams show the close structural relationship of the two drugs.


TRIMETHADIONE PARAMETHADIONE

Structural formulas of trimethadione (Triodone) and paramethadione (Paradione).

REPORT OF CASE

A 26-year-old white man was admitted to Englewood Hospital on Oct. 2, 1952, with marked swelling of both lower extremities, scrotum, penis, hands, forearms, and face. The patient began to have dizzy spells two to three times a week at the age of 16. In 1944, when 18 years old, he entered the Army and, as he stated, "started having blackouts." He would drop to the floor, had no aura, did not soil or injure himself during an attack, and was not sleepy after attacks. These spells occurred daily while he was in basic training but later he experienced them only two to three times a month. Because of the seizures he received a medical discharge.

In November, 1946, because of increasing frequency of these seizures, he consulted a neurologist who made the diagnosis of idiopathic epilepsy with grand and petit mal features. The patient was given 0.3 gm. of trimethadione and 0.015 gm. of phenobarbital four times per day. This dosage was maintained through June, 1949, when the trimethadione therapy was discontinued and administration of diphenylhydantoin (Dilantin) sodium started with phenobarbital. In April, 1951, following a change in physicians, he was placed on a dosage schedule of 1.5 gm. of paramethadione and Mesantoin (3-methyl-5,5-phenylethylhydantoin) 0.5 gm. per day both in divided doses. On these drugs he had only one to two seizures per month.

In late September, 1952, while still receiving the same doses of paramethadione and Mesantoin, he noted tightness of his shoes and watchband, plus swelling of his face. He became alarmed as the swelling progressed, and he consulted a local physician. The physician found generalized pitting edema with albuminuria and advised hospitalization. The patient had no past history or symptoms pointing to abnormalities of his cardiovascular, renal, or gastrointestinal systems. No other members of his family were known to have had convulsive disorders or kidney disease.

Physical examination on admission revealed a well-developed young man with obvious body swelling. He weighed 186 lb. (84 kg.), although his usual weight was 150 lb. (68 kg.). The pulse rate was regular at 80 per minute and respiration at 18 per minute. The blood pressure was 112 systolic and 68 diastolic. His face was pale and puffy. The ocular fundi appeared normal. The lungs were clear to percussion and auscultation. No cardiac enlargement was noted. His abdomen was protuberant, with a fluid wave and shifting dullness. There was 3+ pitting edema of the feet, legs, thighs, and forearms.

The hemogram on admission showed 5 million red blood cells, with 14.4 gm. of hemoglobin per 100 cc. There were 9,100 white blood cells with 69% segmented polymorphonuclear leukocytes, 1% eosinophils, and 30% lymphocytes. The Kline reaction was negative, the hematocrit 51%, and the erythrocyte sedimentation rate 34 mm. in one hour (Wintrobe). Urinalysis revealed light amber urine with a specific gravity of 1.024, 4+ albuminuria, and no sugar. Microscopic examination of the urine showed 3 white blood cells per high power field, no red blood cells, and an occasional finely granular cast. Blood chemistry studies on admission showed 4.54 gm. of total serum protein per 100 cc., with 1.59 gm. of serum albumin and 2.95 gm. of serum globulin. The albumin-globulin ratio was 0.6:1.0, the nonprotein nitrogen level 32.4 mg., creatinine level 1.5 mg., the cholesterol level 478 mg., and cholesterol esters level 196 mg. The chloride, sodium, and potassium levels were all within the range of normal. The results of a urea clearance, phenosulphonphthalein dye excretion, and Fishberg concentration tests were also within limits of normal. The basal metabolic rate was -34. The chest roentgenogram and flat film of the abdomen revealed nothing remarkable.

The patient was placed on a low salt diet and continued on his antiepileptic regimen of Mesantoin and paramethadione while the diagnostic work-up was being completed. A review of the literature revealed the above mentioned toxic nephrotic-like syndrome occurring with trimethadione, so on the fifth hospital day administration of paramethadione was discontinued, while Mesantoin and phenobarbital therapy was maintained.

The following day cortisone therapy was started. He was given 200 mg. per day for three days, followed by 100 mg. per day for seven days. No diuresis occurred. The patient's weight remained 186 lb. (84 kg.) after the 10 day course of cortisone. Starting on the 11th day after administration of paramethadione had been stopped, the urinary output increased. A high urinary output, varying between 1,500 to 3,500 cc. per day, lasted 15 days. At the end of this time, 25 days after paramethadione was discontinued, the patient was free of edema and weighed 149 lb. (67.4 kg.). On the 34th hospital day he was discharged to be followed in the outpatient clinic. At this time his urine showed 1+ albuminuria. The total serum protein level had risen to 5.21 gm. per 100 cc., with 2.65 gm. of serum albumin, and 2.60 gm. of serum globulin; thus the albumin-globulin ratio was 1:1. The cholesterol value was still elevated at 515 mg.

The patient was asymptomatic at clinic visits over the next five months. His weight remained around 150 lb. (68 kg.), with normal pulse, temperature, and blood pressure. Repeated urinalysis showed a steady diminution in the albuminuria. The urine contained no albumin six weeks after the paramethadione therapy had been discontinued and at the time of writing, March 28, 1953. Ten weeks after administration of the drug was stopped, the total serum protein content was 5.45 gm. per 100 cc., with 2.94 gm. of serum albumin and 2.51 gm. of serum globulin. The albumin-globulin ratio was 1.05:1.0. The serum cholesterol level had fallen to 212 mg. per 100 cc. Three months after paramethadione therapy was discontinued, the serum protein level, the albumin-globulin ratio, and serum cholesterol level were all within the normal range, and were also normal on March 28, 1953. The patient now receives Mesantoin and phenobarbital.

COMMENT

In this case the patient had been receiving trimethadione for two and one-half years with no apparent toxic effects but after one and one-half years of paramethadione therapy began to manifest a nephrotic-like syndrome. As in the reported cases of a nephrotic-like syndrome occurring in patients receiving trimethadione, our patient also had normal renal function tests. The diuresis that began 10 days after paramethadione therapy was stopped and continued for 17 days also parallels the events in the trimethadione cases. Although the results of urine tests returned to normal within six weeks, as occurred in Barnett's [1] case, the serum protein and cholesterol levels in our case were a little slower in returning to normal.

The effect of cortisone on the diuresis is open to question. Workers[6] who have employed cortisone and/or corticotropin in the nephrotic syndrome found corticotropin to be much more effective in producing diuresis. Cortisone seldom produced diuresis. In the nephrotic stage of chronic glomerulonephritis treated with cortisone, any diuresis usually begins on the 7th to 10th day of therapy. The diuresis lasts only three to five days. In this case diuresis began on the 10th day of cortisone administration, the 11th day after administration of paramethadione was stopped, and continued for 17 days. This pattern of diuresis approximates that seen after withdrawal of trimethadione.[7]

To date photophobia, mild to severe dermatitides, drowsiness, nausea, hepatitis, agranulocytosis, and nephrosis have been reported[8] to occur in patients receiving the oxazolidine-2, 4 diones (trimethadione and paramethadione). Nephrosis is a rare toxic manifestation, but it is shown by this case and the others mentioned that a urinalysis should be included in the monthly examinations of epileptics receiving trimethadione or paramethadione. Abbott[4] and Kaufman[9] recommend monthly urinalyses, including bile tests, and complete blood counts, as long as the patient is taking the drugs. This is certainly borne out by our case. Abbott[4] wisely suggests careful physical examination, urinalysis, and complete blood count before paramethadione or trimethadione therapy is begun.

SUMMARY

A case of nephrosis occurring during paramethadione (Paradione) therapy is described. The nephrotic-like syndrome cleared six weeks after discontinuance of therapy with this drug. A 10 day course of cortisone did not produce significant diuresis. The need for simple laboratory tests at monthly intervals while patients are on prolonged administration of certain of the newer antiepileptic drugs is stressed.

350 Engle St. (Dr. Wren).

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[6] (*a*) Barnett, H. L., and others: The Effects of ACTH and Cortisone on the Nephrotic Syndrome, Soc. Tr., Am. J. Dis. Child. **80**: 519-520 (Sept.) 1950. (*b*) Spector, S., and Matthews, L. W.: Effect of Pituitary Adrenocorticotropic Hormone (ACTH) in Children with Nephrosis, ibid. **80**: 886-887 (Nov.) 1950. (*c*) Thorn, G. W., and others: Clinical Studies with ACTH and Cortisone in Renal Disease, Arch. Int. Med. **86**: 319-354 (Sept.) 1950.

[7] Barnett.[1] White.[2] Briggs and Emery.[3] Abbott and Schwab.[4]

[8] Abbott and Schwab.[4] Barnett.[6a]

[9] Kaufman, I. C., and Isenberg, S.: Antiepileptic Drugs, M. Clin. North America 1381-1392 (Sept.) 1952.

Physical Therapy.—Physical therapy is an auxiliary to the art and practice of medicine and should be practiced under a physician's supervision, particularly when it is the major treatment given the patient. The diagnosis must be confirmed before treatment is started with physical therapy. The measures applied must be realistic and of dynamic character, and the patient's progress should be followed by the physician and physical therapist. The physician-physical therapist relationship is one of mutual exchange of thought and leads to mutual comprehension of the therapeutic goal and the therapeutic measures necessary for its attainment.—Lieut. Col. Robert W. Augustine, The Relation of Physician and Physical Therapist, *United States Armed Forces Medical Journal*, October, 1953.

SIMPLE DEVICE FOR TRACHEOBRONCHIAL ASPIRATION

Ernest B. Emerson Jr., M.D., Rochester, N. Y.

Most physicians who perform tonsillectomy and oral surgery are well aware of the fact that occasionally, despite careful preoperative medication, mucus does develop in the tracheobronchial tree in quantities that hinder continuous insufflation anesthesia. Under certain circumstances beyond immediate control, it is possible for a patient to have his tracheobronchial tree contaminated with blood. The tracheobronchial aspirator has been designed to simplify the correction of these difficulties without removal of the gags in use, even in the absence of a trained endoscopist. The latter is especially important in view of the fact that the vast majority of surgeons performing tonsillectomy and oral surgery are not trained in endoscopy and need an adequate means of handling such situations.

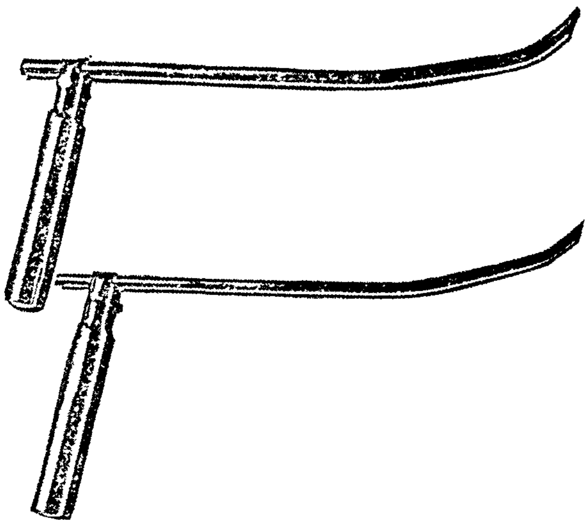

Fig. 1.—The tracheobronchial aspirator. One size is for no. 14 and the other for no. 18 French suction tube.

DESCRIPTION

The tracheobronchial aspirator (fig. 1) is a simple piece of equipment designed so that a rubber suction tube can be passed through it into the trachea with only headlight illumination and without removing the mouth gag. It consists of a removable handle and a long brass tube of such diameter that either a no. 14 or 18 French rubber suction tube may be passed through it. The carrier through which the suction tube passes is bent to allow easy access to the trachea without undue trauma while the gag is still in place.

TECHNIQUE

The technique will be self-explanatory to the endoscopist with but a glance at the diagrammatic illustration of the instrument in use (fig. 2). The steps of insertion are: (1) pass the carrier tube into the mouth and throat

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The tracheobronchial aspirator is available through the Welch-Allyn Company, Skaneateles Falls, N. Y.

From the Department of Surgery, Division of Otolaryngology, University of Rochester School of Medicine and Dentistry, Rochester, N. Y., and in conjunction with the Bronchoscopic Service of the Veterans Administration Hospital, Batavia, N. Y.

along the midline; (2) pick up the tip of the epiglottis; (3) lift the epiglottis up as far as possible and, at the same time, advance the instrument about a centimeter (further in adults); and (4) hold the instrument steady and rapidly pass the rubber tube, with the suction cut off, down the tracheobronchial tree. To remove the aspirator, release the suction while withdrawing the tube with deliberation.

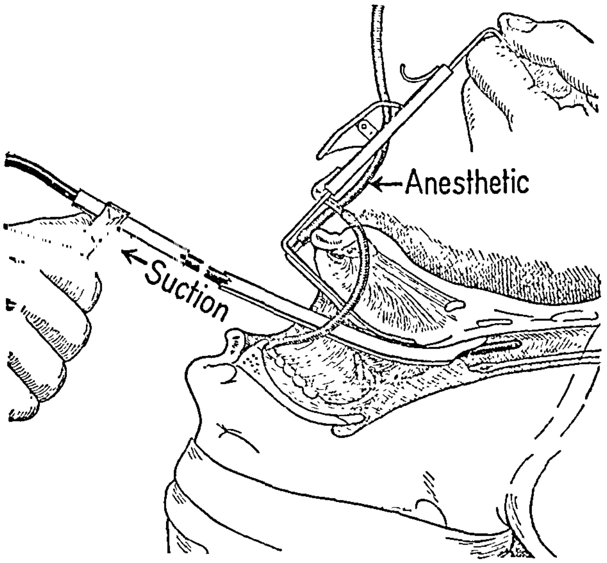

Fig. 2.—The tracheobronchial aspirator in use. Note gag has not been removed, yet entrance to trachea is relatively easy.

SUMMARY AND CONCLUSIONS

A tracheobronchial aspirator is described. The instrument has been found satisfactory for the aspiration of blood and mucus from the tracheobronchial tree during tonsillectomy or oral surgery without the inconvenience of removing the mouth gag. Satisfactory aspiration may be thus accomplished in the absence of an endoscopist.

26 Strathallan Park (7).

Treatment of Carcinoma of Prostate.—The treatment of carcinoma of the prostate depends upon the extent of the neoplasm and the general condition of the patient. In those lesions limited completely to the prostate, if the general condition of the patient warrants it, radical removal of the prostate by either the perineal or retropubic route may be carried out. The retropubic technique offers more extensive exposure of the regional lymph nodes and the seminal vesicles and possibly, therefore, permits a little more radical removal of the carcinomatous area. A great deal of this, however, depends upon the experience of the surgeon. In those cases where the carcinoma has extended beyond the capsule of the prostate and is, therefore, inoperable by radical prostatectomy, interstitial radiation using radioactive isotopes, such as Au^{198}, emitting primarily beta radiation seems promising. . . . In those patients with carcinoma of the prostate where the lesion has metastasized so that the previously described methods of treatment cannot be used, the treatment is palliative and consists essentially of relief of bladder neck obstruction by transurethral resection, conservative prostatectomy or suprapubic cystostomy and endocrine control of the neoplasm by orchiectomy and estrogen administration. When the neoplasm of such patients becomes refractory to orchiectomy and estrogens and the general situation warrants it, bilateral adrenalectomy may be considered.—R. H. Flocks, M.D., Treatment of Carcinoma of the Prostate, *Transactions of the Western Section of the American Urological Association*, May, 1952.

SPECIAL ARTICLE

A PHYSICIAN AND AN ECONOMIST LOOK AT OLD-AGE AND SURVIVORS INSURANCE

F. J. L. Blasingame, M.D., Wharton, Texas
and
Frank G. Dickinson, Ph.D., Chicago

This article reflects the views of the authors and not necessarily the official policy of the American Medical Association. —Ed.

The subject of social security is particularly important to members of the medical profession. Current proposals in Washington to include self-employed physicians under the benefits of Old-Age and Survivors Insurance (OASI), as most employed physicians have been since 1950, make the question timely.

TOWNSEND PLAN

Physicians can speak out against the extension of OASI benefits without indulging in any kind of interprofessional mudslinging. One of the grandfathers of the idea of free pensions is a member of the medical profession, Dr. Francis E. Townsend. While a city health officer in Long Beach, Calif., he became famous for his pension plan before the enactment of the Social Security Act in 1935. Although there are persons today who still cling to Dr. Townsend's basic ideal, his ideas were an outgrowth of the depression years, and his plan was intended to stimulate consumption and thus to pull us out of the depression. The Townsend Recovery Plan provided that each retired person over 60 be given $200 a month to spend within the month. The funds for distribution would have been built up out of a 2% transactions tax.

A 1952 report by the then Federal Security Agency ("Social Security Financing," Bureau Report No. 17, 1952) describes contemporary Townsendism as a plan calling for a 3% tax on all gross income, excluding the first $250 per month for persons. The revenue from this tax would be distributed equally among the retired aged, the totally disabled, and widows with dependent children. No means test would be used. Supporters of this plan would use it to replace the present Old-Age and Survivors Insurance program and much public assistance.

The economic problems of such a system as this are obvious; not only benefits might vary at monthly intervals, but prices would probably rise. Most evident, however, is the moral side of this issue; the aged, disabled, and widowed would all be living on the income of others. The healthy and employed population would be turning over its potential savings to a compulsory charity with equal benefits for retired bank presidents and cleaning women and would be paying higher prices in order to do so. Obviously, contemporary Townsendism, by that name, is not the answer. We laugh at it as others laughed at Townsend and his followers less than 20 years ago. But what we fail to realize is that a twin brother to the

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Trustee of the American Medical Association and Chairman of Committee on Legislation (Dr. Blasingame) and economist and statistician, American Medical Association (Dr. Dickinson).

Townsend plan may actually be just around the corner under the guise of social security extension. The report "Social Security Financing" recognizes these drawbacks but says that the plan may continue to have its advocates as long as the Old-Age and Survivors insurance system is less than complete in coverage. But this very effort to bring about complete coverage may actually produce a Townsend plan. Movements to extend OASI further seem definitely close at hand. Why is this, and what is the answer?

ELECTORATE IS AGING

Between 1930 and 1934, the year Dr. Townsend made his proposal, first graders had decreased from 3.3 to 2.5% of the total United States population. The older generation was staying alive and healthy, and with the birthrate on the downgrade the possibility was strong that the old would become preponderant. Since that time the number of the nation's school children has increased, as today's crowded schools testify, and children are continually having better and better chances of living through childhood diseases; likewise, the older generation is benefiting from improved medical care. Middle-aged men and women are surviving the attacks of influenza, pneumonia, and tuberculosis that were fearfully fatal to their parents and grandparents and living until they are taken by the typically "older" causes of death, like cancer and heart disease. This health progress was obvious in 1935 and is even more so now; the median age at death has risen from 30 years in 1900 to 67 today.

When the age distribution of a population changes so radically in such a short time, the shift is potentially powerful. It brings a change in the economy of a nation as places for retired living grow in size and importance. It changes and challenges society as the proportion of older persons who must be cared for and kept mentally active increases. Furthermore, such a population shift can bring about a strong change in the political balance. Since 1900 the portion of the electorate 50 years of age or older has increased from 24% to 36 or 37%. Is a shift of 12 votes in 100 important? Our political friends say it is a very large shift. The older persons, of course, retain their voting power, and simultaneously they gain more leisure time to study political issues and exert political power.

What are we doing for these persons today when we give them Old-Age and Survivors Insurance benefits? An insurance benefit is psychologically more acceptable than charity. But let us examine the facts and see just how much of the benefits of this insurance are prepaid in premiums.

Current estimates indicate that only 6 to 20% of OASI benefits being paid out today were prepaid by the beneficiaries or their employers. If you will, 80 to 94% of the cost was not prepaid by the employee and his employer before the pension started. Old Age Assistance (OAA) is 100% charity. Is it any wonder that OASI has not succeeded in displacing OAA as promised when the Social Security Act was enacted in 1935? But OAA, however, is not the subject of this paper. Cut-rate premiums were prepaid by those now drawing OASI pensions. It is like buying a $70 suit for $3.42 or $15.98. Did you pay for it? A self-employed person at age 62, for example, brought under OASI in 1951, by paying as little as $121.50 in OASI taxes could have provided a pension of $80 a month for himself, $40 a month for his wife, and $60 a month during the years that she lived after his death. An insurance company, on the other hand, would want about $23,000 at age 65 for such a contract. The difference between $121.50 and $23,000 is great—a substantial amount to receive in charity from persons in all income brackets! And the $80 and the $40 were increased to $85 and $42.50 by Congress in 1952. How much will Congress increase the benefits prior to the 1956 elections? The 1960? The percentage of older voters is increasing and the votes of the post-World War II babies will not arrest this trend for another two decades.

Because the OASI Trust Fund has a "surplus" of 18 billion dollars, the presidential advisors persuaded the President to send a special message to Congress (May, 1953) requesting postponement of the rise in OASI taxes scheduled for Jan. 1, 1954—from 1.5 to 2% by employer and employee on salaries up to $3,600. They argue that this plan is feasible because there is already enough money in the OASI Trust Fund to pay all future payments to those now receiving benefits. This "surplus" came mostly from payments by younger workers and their employers. In truth, it belongs to them. The advisors would, in effect, make it even more obvious than ever that the older workers will not make more than token payments toward their pensions. If you will, the presidential advisors are not satisfied with a system that is only 80 to 94% Townsendism. Apparently they want OASI pensions to become pure gratuities from Uncle Sam. Gratuity is a harsh word for the old; so is Townsendism for the young.

If OASI is ever to become equitable, it cannot be put on a pay-as-you-go basis—current income equals current outgo. In essence, the present OASI Trust Fund compels future congresses to appropriate funds for pensions; as a compulsory future appropriation the "reserve" assures future payments from the fund to those who have contributed toward it, but in amounts far in excess of their (and their employer's) contributions. If OASI were to be set up on a pay-as-you-go basis, concerned only with balancing annual income and outgo, future appropriations for these pensions would no longer be guaranteed by a "reserve." The aging of the electorate would seem to guarantee that Congress would honor this obligation in the future. Putting OASI on a pay-as-you-go basis would, however, continue the present inequity of forcing the young to pay currently what the old receive. We are told that it would merely mean taking money out of one pocket and putting it in another. Our answer is that the pockets would not be in the same pair of pants. What we need is equity between the young and the old, not a new fiscal policy for OASI.

But the moral side of this issue is paramount. Suppose that, regardless of the psychological effect on the older generation, we propose now to pay OASI benefits out of current revenue and to use up the "surplus" in the trust fund. In doing so we are forcing on our children the task of paying for our benefits and forcing their children to pay for theirs. We are extending indefinitely the task of paying more and more taxes for old-age support, since the burden of payment will increase as the number of persons over 65 and the length of time they live beyond 65 increase with health progress. Between 1935 and 1950 the population of the United States increased 18%, while the population 65 and over increased 57%. With beneficiaries continuing to live longer, contributors will soon pay such taxes that they will have no hope of ever saving toward retirement. This is a morally unsound state. It is like presenting a newborn baby with the obstetrician's bill. It is like trying to bring everyone's income up above the average. It puts us on a treadmill of time. We who are now past 50 rob workers under 50. If they object, we tell them to get even by robbing still younger workers.

It is much too easy to rationalize the postponement of our own payments for our children to pay, especially if the payments are labeled insurance. But so far several groups of self-employed workers have held out against being included in Old-Age and Survivors Insurance. The American Bar Association, American Dental Association, and American Farm Bureau Federation as well as the American Medical Association have gone on record as opposing the extension of OASI to self-employed farmers and professional persons. They are withstanding the pressures to leave the responsibility of their future support to their children. On behalf of their members they refuse to accept the bait: pension gifts (in installments) from Uncle Sam of $5,000, $10,000, $15,000, or $20,000, depending on the member's age and his plans for retirement.

PRESIDENT'S ADVISORS

In his State of the Union Message of Feb. 2, however, the President recommended that the "old-age and survivors insurance law should promptly be extended to cover millions of citizens who have been left out of the social security system." On Aug. 1 he recommended to the Congress an extension of coverage based on a report filed with the Secretary of Health, Education, and Welfare by a group of consultants on social security. Their plan suggests that coverage be extended to cover about 10 million more workers. In addition to the state and local government workers, farmers and domestic workers, ministers, home workers, and others who would thus be covered by OASI there are about half a million self-employed professional persons who would be covered for the first time: accountants, architects, chiropractors, Christian Science practitioners, dentists, funeral directors, lawyers, naturopaths, optometrists, osteopaths, physicians, professional engineers, and veterinarians. The consultants on social security report that "many if not all of these exclusions were made at the request of the groups excluded," but nevertheless recommend that they be included in the future.

One of the main reasons these groups have been opposing coverage under OASI is that they fear the long-term results of a trend toward Big Pensions and its sponsor, Big Government. When government begins to give rewards for long life to more and more persons, it begins an averaging process that eventually destroys individuality and initiative. Averaging is a traditional tool of socialists. Why save when the government will pay you if you live long enough and will pay your wife if you don't? A new meaning is coming to the words "social responsibility," which once meant that conscientious citizens would meet the needs of the unfortunate or indigent; the phrase soon will mean "individual irresponsibility," since the needs of all elderly persons will be met by a captive working force of younger taxpayers. The sense of one man's helping another will pass entirely if his major contribution to his fellow men is made through involuntary plans that theoretically insure him. A basic humanity requires that persons be responsible for one another—not that government tax Peter to pay Paul.

Obviously the medical profession can never approve of a federal, compulsory OASI system. Once Big Government produces compulsory pensions and theoretically similar minimum standards for all, it will attempt to bring standard health care to all. The pressure for compulsory health insurance follows in the wake of compulsory pensions. In this Congress more than 70 bills have been introduced to extend OASI and a large proportion of them deal with health benefits. Under all these schemes physicians would, in effect, become employees of the federal government by virtue of their absorption into the administration of the health benefits program.

Perhaps, among all the professional groups, physicians are the most allergic to federal domination because they have felt the hot breath of eager bureaucrats. Having failed to socialize us by frontal attack, they now seek to reach their objective by adding health benefits to the social security system on the one hand and federal subsidies to the voluntary health insurance system on the other.

CHANGES REQUIRED TO FORESTALL TOWNSENDISM

What, then, is the answer? Changes have been suggested by one of the authors (Dr. Dickinson) for the existing OASI system that would make it more sound, both economically and morally, as well as significantly lessening the danger of its mushrooming into an ever-larger welfare-state program. These proposed changes are not in accord with the present Chamber of Commerce policies. His suggested changes are:

"Three essential reforms of OASI are needed before any extension of it is justified. These are: 1. Jump the tax rate for employees over 50 years of age from 2% (after Jan. 1) to 6% of salary up to $3,600 a year. Jump the tax from 2 to 4% on those between 35 and 50 years of age and leave the rate unchanged at 2% for those under 35 years of age. The employer's tax rate would also be increased enough to preserve the 50-50 basis of contributions but should be the same regardless of the age of a particular employee. These sharp increases are necessary if employees, along with their employers, are to contribute the full costs of their OASI pensions for most of each age group before they retire. 2. Eliminate the work rule which prevents a person from drawing his social security pension between age 65 and age 75 if he earns more than $75 a month. In 1951 half of the self-employed physicians over 64 who retired did so after their 74th birthday. Under the present "work rule" they would be required to pay taxes but would receive no pension until reaching age 74, that is, those who live that long. 3. The extra income derived from these increased OASI taxes should be used to buy government bonds in the open market and these bonds should be canceled forever by the Treasury Department the day they are purchased. (Perhaps a small 'petty cash fund' might be advisable.) Over 5 billion dollars of the government debt could thus be retired annually. Similarly the 18 billion dollars of government bonds at present in the OASI trust fund should be canceled forever.

"If these three reforms were accomplished, a retired person could then accept his OASI pension starting promptly at age 65 with the knowledge that he was not robbing younger taxpayers, that he had prepaid a good share of the cost of his own pension. Most of his OASI taxes would have been used to retire the national debt. And the national debt is a real burden for the younger taxpayers.

"If the present administration would depart from the practice of the last two and call Old-Age and Survivors Insurance as now constituted, 'Old-Age and Survivors Charity,' the iniquities of the present system would be clear. Most workers are proud and do not need public charity; they would welcome the opportunity to prepay, with their employers, the full cost of their pensions. In all probability the people are far ahead of Washington in this matter of getting rid of the charity features of OASI by doubling or tripling the tax rate of the older workers."

It is especially urgent, however, to recognize that so long as this compulsory, federally administered pension system exists, the trend toward increased governmental responsibility and diminished personal responsibility cannot be completely reversed. Nor can any proposed changes in the existing system be critically examined without an awareness of the political nature of a federally administered pension plan whose board of directors is the Congress of the United States and whose beneficiaries are the older voters of the nation. The pressure for increased benefits is irresistible in such a system.

DYING OLD

This past half-century has brought striking changes in our way of life. Transportation improvements have made all points closer in distance; radio and television have made the nation closer in thought. New methods of warfare and defense have been frighteningly evident. Yet we have seen a more important development than these changes in material things; there has been an upward-sweeping surge in length of life. Dying old instead of dying young presents us with problems of attitude.

We need to reevaluate our approach toward old age. Much current thinking about the aged has dealt with the problem of supporting older persons financially. We tend to assume that we will always have an increasingly large nonproductive group over age 65 who will be dependent on social welfare. This shows an unwarranted lack of faith in what American medicine and American industry can do to develop the potentialities of older persons. Medicine's job is to keep them well enough to enjoy working. Industry's job is to find something useful for them to do. We have been encouraged lately to observe positive efforts to integrate older persons into our community and business life as productive units rather than merely to put them out to graze in ever greener pastures. Private enterprise has got to begin to think of methods of solving this problem in a private enterprise way. Older persons must be given the opportunity to be productive and thereby self-sustaining and self-respecting. We should not promote a planned old age of meager subsistence.

Those of us who are benefiting by health progress need now, more than ever, a moral philosophy to live by. We face life with the confidence produced by long life. We have faith that we will live to carry out most of our plans for our children and to see our hopes for them fulfilled. But is our longer lifetime giving us a clearer picture of our relationships, or are we closing our eyes to the next generation, thinking of our own desires, and losing our standards of right? Now as never before it is time to search for and cling to moral honesty. We can expect a long life. By what kind of social morality will we live?

COUNCIL ON PHARMACY AND CHEMISTRY

NEW AND NONOFFICIAL REMEDIES

The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its action will be sent on application.

R. T. Stormont, M.D., *Secretary.*

Hexamethonium Bromide.—Bistrium Bromide (Squibb).—$C_{12}H_{30}Br_2N_2$.—M. W. 362.21.—Hexamethylenebis(trimethylammonium bromide).—The structural formula of hexamethonium bromide may be represented as follows:

$$(CH_3)_3\overset{+}{N}-CH_2(CH_2)_4CH_2\overset{+}{N}(CH_3)_3 \quad 2Br^-$$

Actions and Uses.—Hexamethonium bromide is similar in its actions and uses to the salts of other quaternary ammonium compounds, such as tetraethylammonium chloride, which act as ganglionic blocking agents. Hexamethonium inhibits the transmission of nerve impulses through both the sympathetic and parasympathetic ganglia of the autonomic nervous system. Interference with the transmission of sympathetic stimuli causing vasospasm, particularly in the lower extremities, produces increased blood flow and hypotension. Simultaneous interference with the transmission of parasympathetic impulses produces loss of ocular accommodation, cessation or decrease of motility of the gastrointestinal tract, and alteration of bladder function.

Hexamethonium bromide is of limited clinical usefulness as a therapeutic and diagnostic agent in the management of peripheral vascular diseases. It may be beneficial in the treatment of thromboangiitis obliterans, arteriosclerosis obliterans, arterial embolism, diabetic gangrene, herpes zoster, acute thrombophlebitis, Raynaud's disease, acrocyanosis, trench foot, immersion foot, and various causalgias including reflex dystrophy. It may be employed diagnostically in acrovascular conditions to estimate the contribution of sympathetic stimuli in the production of vasospasm.

Hexamethonium bromide is also useful in the management of selected cases of hypertension. The drug is more effective for controlling episodes of severely elevated blood pressure than for mild hypertension. It may be helpful when used with caution in patients with severe hypertension and cardiac decompensation, but it is not likely to be effective in malignant hypertension with uremia. It should be used with caution, if at all, in patients with myocardial ischemia, cerebral ischemia, or encephalopathy and renal failure.

Since hexamethonium is more slowly and less completely absorbed by oral administration than by parenteral injection, the oral route is not recommended in the therapy or diagnosis of peripheral vascular disease. Because larger doses are required to produce the effects of the drug by the oral route, the use of the bromide salt in hypertension involves the regular occurrence of bromidism, so that *it should be administered only by parenteral injection.* Injections of the drug are not cumulative, but tolerance may develop in the management of severe hypertension. Upon injection, the drug produces its effects promptly and these usually persist from four to six hours. Following injection, the drug is excreted in the urine, whereas on oral administration a large portion passes through the intestinal tract in the stool.

Hexamethonium may produce peripheral circulatory collapse. Because of its hypotensive action, it should be employed with caution in all elderly patients and in those with arteriosclerosis. Its use is dangerous in patients who have recently lost blood because compensatory vasoconstrictor mechanisms are blocked. Side-effects occasionally observed include dilatation of the pupils, blurred vision, dryness of the mouth, postural faintness, transient nausea, vomiting, or drowsiness. Constipation may occur in some patients, which often can be managed by the concomitant administration of laxatives, repeated enemas, or temporary discontinuance of the drug. When the constipation is serious, paralytic ileus may result. This may be overcome by the oral administration of bethanechol chloride in doses of 5 to 10 mg. twice daily. Phenylephrine hydrochloride, 2 to 4 mg. intravenously, may be used to combat profound hypotension. Small doses should be used because hexamethonium increases the sensitivity to vasopressor agents.

Dosage.—Hexamethonium bromide is administered by parenteral injection intravenously, intramuscularly, or subcutaneously, depending on the rapidity of response desired. To induce ganglionic block, 90 to 135 mg. (50 to 75 mg. in terms of the ion) is given parenterally as a single dose. Heavier patients may require as much as 180 mg. (100 mg. as the ion), but the maximum dose should seldom exceed 90 mg. This produces a maximum response within a few minutes, which lasts for one hour and subsides gradually after four to six hours.

When repeated doses are necessary, the minimum effective dose is repeated every six hours, after meals and at midnight. Doses of 90 mg. or more may cause profound postural hypotension and occasionally a significant reduction in supine blood pressure. Patients receiving such doses for the first time should be kept in a recumbent position for three hours following the initial dose. Upon arising, each patient should be instructed to lie down at the first feeling of faintness. Subsequent doses usually do not cause such profound hypotension because of vascular adjustments. The initial dose may be given subcutaneously with the patient in a sitting position as an added precaution. For severely ill or debilitated patients, an initial dose of 1.8 to 9 mg. (1 to 5 mg. as the ion) should be used. This should be increased gradually, depending upon the response of the patient.

Tests and Standards.—

Physical Properties: Hexamethonium bromide is a white, tasteless, crystalline material with a faintly aromatic odor, m.p. 281-286°, when the sample is put in the bath at 265°. Hexamethonium bromide is freely soluble in methanol and water, soluble in alcohol, and insoluble in ether. The pH of a 1% solution is 6.2-7.0.

Identity Tests: Add 0.5 ml. of diluted nitric acid and 1 ml. of silver nitrate T.S. to 1 ml. of a 1% solution of hexamethonium bromide: a yellowish precipitate forms which is insoluble in nitric acid but slightly soluble in ammonia T.S. *(presence of bromide).*

Dissolve about 0.25 gm. of hexamethonium bromide in 5 ml. of water, and add 15 ml. of alcohol and 15 ml. of neutral sodium perchlorate [Add *cold* sodium hydroxide (100 gm./125 ml. of water) to a *cold* mixture of 300 gm. of 70% perchloric acid and 180 ml. of water, in an ice-bath, until the pH of the solution is about 7.0. Dilute the mixture to 500 ml. with water.]. Heat the solution on a steam bath to dissolve the precipitate initially formed. Cool the solution to about 10° and filter the mixture through a sintered glass filter of fine porosity. Wash the precipitate with cold alcohol and cold anhydrous ether, and dry at 105° for four hours: (*Caution! Care should be used in handling the dry material. It may be explosive.*) the hexamethonium diperchlorate obtained melts at 261-265°.

Purity Tests: Dissolve about 1.5 gm. of hexamethonium bromide, accurately weighed, in 200 ml. of water, add 5 ml. of saturated sodium bicarbonate, transfer quantitatively to a 250 ml. separatory funnel, and extract with 20 ml. of chloroform. Drain the chloroform layer into a 125 ml. separatory funnel and repeat the extraction of the aqueous solution with two 20 ml. portions of chloroform. Combine the extracts and wash them with 10 ml. of water. Filter the chloroform extract through a pledget of cotton into a tared 150 ml. beaker and wash the cotton with about 5 ml. of chloroform. Evaporate the chloroform on a steam bath and place the beaker in a vacuum desiccator for 1 hour: the amount of residue is not more than 0.5% *(presence of non-quaternary material).* Dry about 2 gm. of hexamethonium bromide, accurately weighed, in a vacuum desiccator over phosphorus pentoxide for 4 hours: the loss in weight is not greater than 1.0%.

Ignite about 2 gm. of hexamethonium bromide, accurately weighed, over a low flame, cool the residue, add 1 ml. of sulfuric acid, and complete the ignition: the amount of residue is not more than 1.0%.

Assay: (Bromine) Accurately weigh about 0.2 gm. of hexamethonium bromide and determine the bromine as described in the assay for bromide in the U.S.P. monograph for sodium bromide. Each milliliter of 0.1 *N* silver nitrate is equivalent to 0.007992 gm. of bromide and 0.01811 gm. of hexamethonium bromide. The amount of bromine present is not less than 43.0 nor more than 45.2%, equivalent to not less than 97.5 *nor more than 102.5% of hexamethonium bromide.*

(Hexamethonium Ion) Slowly and with constant stirring add 14.5 gm. of 70-72% perchloric acid to 960 ml. of glacial acetic acid contained in a 1,000 ml. volumetric flask set in an ice bath and mix well. Slowly add 24.2 gm. of acetic anhydride with constant stirring. Allow the solution to stand for 24 hours. Standardize the acid at 25° against potassium acid phthalate in glacial acetic acid (1:40), using 1% crystal violet in glacial acetic acid as an indicator and titrating to a blue-green end point. Transfer to a 250 ml. Erlenmeyer flask about 0.25 gm. of hexamethonium bromide, accurately weighed. Add 50 ml. of acetic acid, 10 ml. of a 2% solution of mercuric acetate in glacial acetic acid, and 2 drops of crystal violet indicator solution in glacial acetic acid and titrate with 0.1 *N* perchloric acid to a blue-green end point. Each milliliter of 0.1 *N* perchloric acid is equivalent to 0.01012 gm. of hexamethonium ion and 0.01811 gm. of hexamethonium bromide. The amount of hexamethonium ion is not less than 54.8 nor more than 57.0%, equivalent to not less than 97.5 nor more than 102.5% of hexamethonium bromide.

Dosage Forms of Hexamethonium Bromide

SOLUTION. *Identity Tests:* To an amount of solution equivalent to about 0.1 gm. of hexamethonium bromide, add 10 ml. of ammonium reineckate T.S.: a pink precipitate with a metallic sheen appears immediately.

To an amount of solution, equivalent to about 0.25 gm. of hexamethonium bromide, add 15 ml. of alcohol and proceed as directed in the identity tests for the active ingredient in the monograph for hexamethonium bromide.

Assay: (Hexamethonium Ion) Transfer to a 250 ml. Erlenmeyer flask an amount of solution, accurately measured, equivalent to about 0.125 gm. of hexamethonium ion. Add 50 ml. of acetic anhydride, attach an air-cooled condenser to the flask, and reflux for 10 min. Cool to room temperature, add 50 ml. of acetic acid, 10 ml. of a 2% solution of mercuric acetate in glacial acetic acid, and 2 drops of a 1% solution of crystal violet indicator solution in glacial acetic acid, and titrate to a blue-green end point with 0.1 *N* perchloric acid. Each milliliter of 0.1 *N* perchloric acid is equivalent to 0.01811 gm. of hexamethonium bromide. The amount of hexamethonium bromide is not less than 95.0 nor more than 105.0% of the labeled amount.

E. R. Squibb & Sons, Division of Mathieson Chemical Corporation, New York.

Solution Bistrium Bromide: 10 cc. vials. A solution containing 44.75 mg. of hexamethonium bromide in each cubic centimeter. Preserved with 0.9% benzyl alcohol.

Secobarbital Sodium (See New and Nonofficial Remedies 1953, p. 259).

Chemo Puro Manufacturing Corporation, Long Island City, N. Y.

Powder Secobarbital Sodium: Bulk; for manufacturing use.

Sodium Ascorbate (See New and Nonofficial Remedies 1953, p. 505).

The Vitarine Company, Inc., New York

Solution Sodium Ascorbate: 2 cc. ampuls. A solution containing sodium ascorbate equivalent to 50 mg. of ascorbic acid in each cubic centimeter. 5 and 10 cc. ampuls. A solution containing sodium ascorbate equivalent to 100 mg. of ascorbic acid in each cubic centimeter. All sizes preserved with 0.5% chlorobutanol.

Sodium Sulfacetamide (See New and Nonofficial Remedies 1953, p. 113).

Chemo Puro Manufacturing Corporation, Long Island City, N. Y.

Powder Sulfacetamide Sodium: Bulk; for manufacturing use.

REPORTS OF OFFICERS

(Continued from page 854)

REPORT OF THE SECRETARY

To the Members of the House of Delegates of the American Medical Association:

The Secretary respectfully submits the following annual report:

Membership

The year ending Aug. 31, 1953, again showed excellent progress in the Membership-Subscription Division of the Department of Records and Circulation. The upward trend in the membership income continued through 1952-1953 and resulted in revenue of $2,923,625.25 from paid members for the first eight months of 1953, as against $2,739,520.00 for the first eight months of 1952. The number of paid members increased by 7,323 for the first eight months of this year. The total was 117,063, while in the previous year it was only 109,740. A breakdown of the membership records as of Aug. 31, 1953, includes the following types and numbers of members.

Active paid members	117,063
Active members exempted from payment of dues	8,143
Associate members	3,886
Affiliate members	270
Honorary members	140
Service members	8,900
Total	138,402

The service member group includes full-time medical officers in the United States Army, Navy, and Air Force, and the Public Health Service, Veterans Administration, and Indian Service.

During 1953, 2,722 payments were received to cover 1952 dues, 924 payments to cover 1951 dues, and 334 payments to cover 1950 dues. These payments were obtained through letters sent directly to the member or through the state and county secretaries, who by their tireless efforts have helped bring these physicians back into the organization and put their names on the membership roster for 1953. Letters have been sent to some 6,000 members who have not yet paid 1953 membership dues calling attention to the fact that their names will be removed from the membership roster if payment is not sent within a reasonable time.

The following table shows the number of paid members in the states and territories for 1953 and 1952, as of Aug. 31, 1953.

	1953 Paid Members	1952 Paid Members
Alabama	1,264	1,203
Arizona	626	585
Arkansas	845	783
California	11,377	10,897
Colorado	1,331	1,346
Connecticut	1,988	2,014
Delaware	266	253
District of Columbia	1,034	942
Florida	1,903	1,749
Georgia	1,746	1,628
Idaho	432	415
Illinois	7,910	7,983
Indiana	2,824	2,759
Iowa	1,918	1,896
Kansas	1,206	1,054
Kentucky	1,447	1,416
Louisiana	1,398	1,278
Maine	492	431
Maryland	1,505	1,350
Massachusetts	4,099	3,603
Michigan	4,679	4,516
Minnesota	2,550	2,627
Mississippi	975	914
Missouri	2,505	2,438
Montana	407	385
Nebraska	1,095	1,105
Nevada	138	138
New Hampshire	393	434
New Jersey	4,478	3,923
New Mexico	369	349
New York	15,207	12,574
North Carolina	2,136	1,972
North Dakota	312	292
Ohio	6,090	5,553
Oklahoma	1,275	1,277
Oregon	1,235	1,099
Pennsylvania	9,718	9,614
Rhode Island	556	533
South Carolina	807	789
South Dakota	345	298
Tennessee	1,795	1,666
Texas	5,324	4,973
Utah	616	603
Vermont	339	326
Virginia	1,502	1,356
Washington	2,025	1,962
West Virginia	1,225	1,211
Wisconsin	2,689	2,628
Wyoming	205	188
Canal Zone	15	28
Hawaii	339	327
Puerto Rico	53	21
Alaska	55	36
Total	117,063	109,740

In 1953, for the first time, payments of membership dues were recorded on the I. B. M. system as the first phase of the conversion from the manual system. Plans are now being made to expand the use of the I. B. M. system during 1954 to expedite sending out membership cards at the time dues are recorded. In addition, the records of exempt, associate, and service members are being converted to the I. B. M. system to facilitate sending membership cards and to speed up the tabulation of data. Many problems still confront the Association if membership records are to be accurate and up-to-date. The long delay between the time the physician pays his American Medical Association dues and the time the dues are received at Association headquarters is a major problem. One of the main difficulties is in notifying a physician that his membership dues are payable. In many states the physician is billed in January for his state dues and two or three months later for his American Medical Association dues. Where the secretary sends a bill for the county, state, and American Medical Association dues at one time, it generally speeds up the payment of dues. The delay in receiving the payments is especially serious when it concerns a new member of the American Medical Association, as such names can not be placed on the mailing list to receive THE JOURNAL or one of the specialty journals until payment is received by the American Medical Association.

Many members have been reported this year as new members with a payment of $25.00 for 1953 dues. A check of the records reveals that these physicians had been members of a constituent association in 1950 and therefore must pay $25.00 delinquent dues for that year. County and state secretaries have not realized that in taking a new member into the American Medical Association it is necessary to collect these old dues. It is only after several letters that it is possible to collect the back dues, and, in a number of cases, such members will have to be dropped at the end of this year if they do not comply with the Bylaws. The number of members who have been delinquent in the payment of dues for 1951, 1952, and the present 1953 has been greatly reduced. Many of the names that appear on our 1953 unpaid list turn out to be physicians who are in the Service, in residencies, or have left the state and joined elsewhere but the state secretaries have failed to notify this office.

Another problem is the variety of membership classifications in constituent associations, which causes confusion as to the type of membership a physician may hold in the American Medical Association and, consequently, the number of members that may be counted for representation in the House of Delegates. Because the problem arises out of provisions in the constitutions and bylaws of the constituent associations, it can not be easily or quickly solved. In many states active membership is given only to physicians in practice. Also in many states when a member of the constituent association retires, suffers physical disability, or enters on active duty in the Army, Navy, or Air Force, his type of membership changes to a category that does not give him the right to vote and hold office in the constituent association. Such physicians may then be given associate membership in the American Medical Association and can not be counted in its total of active members. In some states, an emeritus or honorary membership is given to some physicians at the age of 65 or possibly after 40 years of practice, excusing them from payment of local and state dues. Such physicians are frequently disappointed to find that they must continue to pay dues in the American Medical Association until the January first following their 70th birthday. Other states give a junior membership to physicians during the first few years of practice as well as to interns and resident physicians, but such members are eligible to exemption from payment of American Medical Association dues only if they are taking postgraduate training within five years of graduation.

Other sources of misunderstanding are the uses of the terms, associate, affiliate, honorary, service, and veteran, to designate categories of membership. Physicians holding one of these types of membership in a constituent association assume that they hold a like-named membership in the American Medical Association. If they are exempted from payment of dues in their county and state societies, they then think they should be exempted from payment of dues in the American Medical Association. One of the most misunderstood situations is the fact that when a physician is exempted from payment of dues he feels he has been exempted from payment for The Journal of the A. M. A. or any publication he may be receiving through the benefit of membership. Specific recommendations have been made in conferences with officers of one or two state associations, and as a result changes are now being made in the constitutions and bylaws of those organizations to provide active membership for physicians who are eligible for exemption from payment of dues. Other states have already made changes and in some cases have added new categories of membership. A new survey is being made of the constitutions and bylaws of constituent associations with respect to provision for exemption from payment of American Medical Association dues. Further recommendations can be made at the completion of the study.

Subscription and Circulation

The number of subscribers on the mailing list for The Journal was about the same as in 1952, although many members substituted one of the special publications in place of The Journal. All of the nine special publications showed an increase in circulation.

It has been possible during the period of collecting dues from delinquent members to maintain the circulation of The Journal at its present level. Every effort was made to collect back membership dues rather than to take the name off of the membership subscription list without giving the member or subscriber every opportunity to pay. In the majority of instances, the subscriber finally paid up after he understood the situation.

All of the nine specialty journals showed an increase in circulation. While part of this gain is accounted for by the fact that physicians substituted one of the special publications for The Journal, on their membership, there was a number of new orders from specialists and, most of all, a very high renewal average.

Field Activity

There have been numerous calls on the Secretary and the Assistant Secretary, as in previous years, to attend and participate in meetings of state medical associations and county medical societies. Such invitations are greatly appreciated and are accepted whenever possible, even though attendance at so many entails considerable time lost from work at headquarters. An efficient and willing staff, not only in the Secretary's Office but also throughout the various departments, keeps essential routine work well in hand. The Secretary and/or Assistant Secretary have also attended and taken part in meetings of other organizations with which the American Medical Association maintains cordial relations and have served on committees or in an advisory capacity. They have also appeared before hearings of congressional committees to present the views of the Association with respect to proposed legislation of interest to medicine. In addition, an earnest attempt is made to attend at least a portion of all meetings of the Association's own committees and Councils.

Directives of the House of Delegates

The Secretary has made disposition of resolutions and recommendations adopted by the House of Delegates at the New York Meeting which were not specifically directed to the Board of Trustees or stated Councils or committees.

Resolution on American Medical Education Foundation.—The attention of the executive officer of each constituent association was drawn by letter to this resolution, which recommended that all state medical associations follow the plan of the Illinois State Medical Society whereby a stated sum of money is collected from each member and earmarked for the Foundation. One reply has been received in the form of a resolution which may be introduced at the St. Louis Meeting.

Resolution on Payment of Back Dues.—This resolution requested the Association to alter its regulations so that payment of membership dues for a current year "without the payment of any back dues" would be sufficient for membership in good standing of those members of constituent associations who have not heretofore paid American Medical Association membership dues. The Reference Committee on Amendments to the Constitution and Bylaws recommended that the resolution and its report be studied by the state medical associations, and that the resolution be considered again at the December, 1953, meeting. This was pointed out in a letter to each state association executive officer. One reply has been received, also in the form of a resolution which may be presented to the House.

Resolution on Expression of Appreciation to Physicians of Korea.—This resolution was forwarded to the Korean Ambassador at Washington, D. C., Dr. You Chan Yang, who replied as follows:

> I have your letter of September 2, 1953, with a copy of the resolution of appreciation adopted by the House of Delegates of the American Medical Association at its annual session held in New York City in June and expressing the appreciation of the American Medical Association for the physicians of Korea because of their valiant work during the communists' attack on the Republic of Korea.
>
> Being a physician myself, I am very proud of my American colleagues for the beautiful sentiments embodied in the resolution, and I wish to take this opportunity to express my personal gratitude to the members of the American Medical Association.
>
> I am sending your resolution to the Korean Medical Association in Korea, and I am sure you will hear from them in the very near future.

Resolution on Executive Order of President of the United States.—This resolution, which recommended the rescinding of Section 8 (a) (1) (iv) of Executive Order 10450 dealing with security requirements for government employees, was transmitted to the Special Assistant to the Secretary of Health, Education, and Welfare, Dr. Chester S. Keefer, who replied that "the matter . . . has been referred to the Department of Justice for consideration and advice," and that "when definitive information has been developed it will be "forwarded" to the American Medical Association. No further communication has yet been received.

Resolutions to be Introduced at St. Louis Meeting

At the time of preparation of this report, four resolutions to be presented at the St. Louis meeting of the House of Delegates have been received by the Secretary. The resolutions deal with chiropractic and naturopathic education, principles of medical ethics, ethical advertising, and medical school training and will be introduced by the delegations from Alabama, Iowa, West Virginia, and Utah, respectively.

The Collier's Article

The Secretary would like to call to the attention of the House of Delegates an incident concerning *Collier's* magazine, which, in its issue of Oct. 30, 1953, published an article entitled "Why Some Doctors Should be in Jail." The writer, Howard

Whitman, during his preparation of the article asked the Secretary for an official statement regarding American Medical Association policy with respect to fee splitting, and the statement was given to him. Unfortunately, when the article was published the statement plus a photograph appeared in close juxtaposition to the title, leaving the false impression in the minds of many physicians that the Secretary had reviewed the title and the article and approved them before publication. The Secretary wishes the record to show clearly that he never saw the article, the title, the illustrations, or the cover page of that issue of *Collier's* before publication. Had it been submitted to him he would have strongly protested.

In Appreciation

The Secretary again offers an expression of his sincere gratitude and appreciation for the many courtesies and the kindly assistance extended to him by the members of the House of Delegates and by the officers and members of official bodies of the Association and of the constituent and component societies. The headquarters personnel, which now totals 823 full-time workers in the office and mechanical departments, deserve a word of praise and appreciation for their continued loyal and helpful contributions to the administration of the Association's affairs.

Respectfully submitted,

GEORGE F. LULL, Secretary.

REPORT OF THE BOARD OF TRUSTEES

To the Members of the House of Delegates of the American Medical Association:

The following annual report of the Board of Trustees is respectfully submitted.

(Concluded from page 854)

The Journal of the American Medical Association

THE JOURNAL is still maintaining a publication schedule which permits the issuance of larger and more complete numbers. While most of the articles are primarily of interest to general practitioners, many other statements of particular interest to specialists are included. There is a limit to the number of papers that can be published, but the desires and needs, suggestions, and criticisms of the readers are kept uppermost in mind as communications are selected for publication. In 1950 a thorough study was made concerning the editorial content of THE JOURNAL. Following this study many changes were made, and others will follow as expediency permits. In 1953 another study was made to encompass editorial and advertising problems, and this study also will serve as a guide for future plans.

The circulation, domestic and foreign, of THE JOURNAL is steadily increasing, which, while encouraging, at the same time increases production difficulties. Perhaps it is not well known that there are printed each week approximately 167,000 copies even though the cover carries the statement "This issue exceeds 150,000 copies."

While not all departments have equally large numbers of readers, interest in most departments seems to be growing yearly. Perhaps the best evidence of this lies in the correspondence received, the number of times passages are quoted and repeated elsewhere, and, of course, the prompt response when an error occurs. A new department introduced in the last several months is "The Leisure Corner," which is directed toward the hobbies of physicians.

Some of the departments of the Association provide much material for THE JOURNAL during a year. In fact, several issues are dedicated to special subjects. However, there is a limit to the size of a single issue because of mechanical production difficulties, mailing, and costs, and it may be necessary to consider condensation of some of the special issues. Such action cannot be taken lightly, as THE JOURNAL plays an important role in the dissemination of such information. Another indication of the role of THE JOURNAL in the activities of the Association can be gained from the financial reports offered by the Board of Trustees, which reveal the status of is periodical as a source of income.

The Current Medical Literature section contributes to THE JOURNAL weekly 12 to 16 pages of abstracts culled from universal medical literature. The material for abstracts is furnished by some 1,200 publications subscribed to or received by the Library of the American Medical Association. An attempt is made to report on the most important clinical work, research, and biological problems related to medicine and which are primarily of interest to the practitioner. The department also furnishes abstracts for the *A. M. A. Archives of Industrial Hygiene and Occupational Medicine.* It translates foreign letters sent to THE JOURNAL by its correspondents in the various countries, business letters, and all foreign correspondence received by the Association.

During the first eight months of 1953, the Medical News department of THE JOURNAL continued to show an increase in the number of items published. A survey of the periods covered by the past three reports shows that in the first months of 1951, 1,457 news items were published; in the analogous period of 1952, 1,699, and in 1953, 1,960. A breakdown, prepared to determine state coverage, reveals that a few states have been consistently and regrettably unproductive of news. Obviously, either nothing of importance ever happens in these states or they are too modest or indifferent to report their activities through the available channels of communication. Special efforts will be made through the coming year to encourage and increase the news items from these states. The number of obituaries published has also steadily increased, as have the clippings disseminated to various individuals and departments in the organization, and the requests by telephone and letter for information on a great variety of subjects. The increased use of photographs of hospitals, medical headquarters, university projects, etc., has added to the interest and effectiveness of the pages.

The Queries and Minor Notes department of THE JOURNAL received more inquiries than in any previous year. The number of letters received during the first nine and one-half months of 1953 is approximately 1,800, which if projected over a 12 month period should be more than 2,400. This compares with 1,100 inquiries in 1949, 2,100 in 1951, and 2,200 in 1952. Another indication of the growing interest in this section of THE JOURNAL is the number of letters commenting on the Queries and Minor Notes published. While not all of these appear in THE JOURNAL, many are published. For example, in 1951 approximately 70 appeared in THE JOURNAL pages, in 1952 there were 80 published, and in the first eight months of 1953 there were 70. Volume III of "*Selected Questions and Answers*" is out of print already. Six thousand copies were sold and many orders were received that could not be filled. While there have been numerous requests for volume IV, plans for issuing this volume have not yet been made.

Specialty Journals

On Aug. 1 Mr. Gilbert S. Cooper became Managing Editor of the Specialty Journals. He formerly was Director of Sales for the Blakiston Book Company. He has had broad experience in the selection and training of personnel, the development of production programs, and editing and sales. His special training and knowledge will be directed toward making the Specialty Journals even more helpful to more physicians as economically as possible but within the boundaries of good publishing.

The Specialty Journals department is now undergoing intensive study and analysis with the intention of making it a commercial operation with respect to manpower requirements, method improvement, and production and cost controls. This does not imply that the department is motivated by the desire for profit. It does mean that it seeks to operate within such limits as to provide for production and overhead costs, with consideration for depreciation of equipment which will need repair and possible replacement.

METHODS IMPROVEMENT

A review of operating procedures is a continuing function of good management. Supervisory personnel of the Specialty Journals will be prepared to observe procedures under the Managing Editor's control with such critical attitude that details without purpose and, therefore, unnecessary, will be eliminated. He will look at other details with intent to combine them to reduce handling, and rearrange for better sequence. Wherever possible, he will be expected to simplify details so that they are more easily performed.

There is a very close relationship between office production and methods improvement. A close study of Specialty Journal activity, from receipt of manuscript to the release of a journal issue, will result in a realistic publication schedule. Necessary adjustments both in schedule and in sequence of operations will work toward a superior control. The importance of this phase of publishing cannot be overemphasized. A guaranteed release date for each issue has a desirable effect upon the subscriber and advertiser, and has a tendency to attract both. Constant attention to this matter is essential and will be encouraged.

Cost Control

This department is interested in breaking down production costs on the basis of the following factors for each issue: (1) text section: composition, author alterations, engravings, printing—text, paper—text, cover—presswork and binding, cover—stock, printing of special inserts, stock for special inserts, inserting, and (2) ad section: composition, printing black form, printing color form, paper for ad section, and number of inserts and cost.

During the first nine months of 1953, the Specialty Journals have published 605 original articles, 30 progress reports or general reviews, 145 case reports or clinical notes, and 19 editorials. Accepted articles waiting publication: surgery 43, pathology 25, otolaryngology 52, ophthalmology 29, neurology and psychiatry 21, internal medicine 42, industrial hygiene 33, dermatology and syphilology 73, and diseases of children 42. The total of all unpublished articles for all Specialty Journals is 400. It is anticipated that 266 more papers covering articles, progress reports, general reviews, case reports, clinical notes, and editorials will be published during the remainder of 1953.

Circulation figures for all nine Specialty Journals show an increase, as of Aug. 31, 1953, over 1952. *Archives of Surgery* has increased 440; *Archives of Otolaryngology* 90; *Archives of Dermatology and Syphilology* 282; *Archives of Industrial Hygiene and Occupational Medicine* 95; *Archives of Pathology* 136; *Archives of Internal Medicine* 374; *Archives of Ophthalmology* 245; *Archives of Neurology and Psychiatry* 203; *American Journal of Diseases of Children* 262. For all Specialty Journals the total increase has been 2,127.

Standard Nomenclature of Diseases and Operations

The Editorial Advisory Board for the fifth edition of "Standard Nomenclature of Diseases and Operations" met on March 7, 1953, and 23 working committees were appointed. These committees are composed of leaders in their respective fields, who will work in close collaboration with the editors in making consistency changes, deletions, and additions. Scientific knowledge gained in the interim between publications requires many changes in the scientific material presented. The working committees approve or disapprove of these latter changes.

In November, 1952, and March, 1953, standard nomenclature was taught at five-day institutes for medical record librarians, sponsored jointly by the American Hospital Association and the American Association of Medical Record Librarians. The nomenclature institute teaching was under the direction of the associate editor, Mrs. Adaline C. Hayden. Standard nomenclature classes were also taught by Mrs. Hayden at meetings and local institutes in New York, Indiana, Iowa, and Massachusetts. Through these mediums approximately 1,000 record librarians have received instructions in the use of nomenclature. A special course in standard nomenclature sponsored by the Committee on Education of the Chicago Medical Record Librarian's Association was conducted at weekly intervals covering a period of nine weeks during April, May, and June, 1953.

The nomenclature is now being used by 74.5% of the hospitals in this country and has a considerable foreign distribution. Approximately 2,300 nomenclature queries have cleared through the Association's headquarters office during the past year.

Quarterly Cumulative Index Medicus

Volume 50 (July to December, 1951) of the Quarterly Cumulative Index Medicus was published in June, and it is anticipated that volume 51 (January to June, 1952) will be available by the end of the year, since the editorial work was completed in August. Cards for volume 52 (July to December, 1952) were all assembled in September, and editing of the copy for reproduction of this issue is well under way.

In the meantime progress has been made in the preparation of a third edition of the Quarterly Cumulative Index Medicus Subject Headings, which is long overdue, the second edition being outdated and no longer satisfactory for use by the editorial staff. Because this new edition will entail a number of changes, the production of the long-awaited volume 45 (January to June, 1949) will be undertaken after volume 52 is processed and before the revision of subject headings is adopted. It has been necessary to cut the number of periodicals included in this volume and limit its coverage to those which are deemed most valuable to users. Although considerable objection to this procedure and differences of opinion regarding the journals selected are anticipated, the decision to curtail this issue was made only after careful consideration.

A reduction in coverage will be noted in volume 50, which includes about 1,000 periodicals on the list of those indexed. However, this means very little change in the number of articles entered, since almost every periodical has increased in size during the past few years. At the same time, 21 journals were added in this volume. Many of those removed are available in only a few libraries in this country, and others appear so irregularly that they are not dependable. Most of them will be reconsidered as soon as improved conditions warrant an increase in the number of publications handled.

In evaluating a periodical for inclusion in the index, the following questions are asked: Is the periodical well edited? Is it widely read? Is it the official publication of an organization of some standing? Does it contain original articles? Are they well developed presentations? Do they make a contribution to medical knowledge or practice? Are they of more than local interest? In addition, there are other criteria for publications in related fields or in foreign languages, for hospital bulletins, for specialty journals, and others which fall into separate categories.

Beginning with volume 51, a new feature has been added to the bibliographic information furnished by the index: symbols indicating foreign languages appear at the end of the subject entries and of any author entries with titles translated into English. This will aid the user in determining immediately what language is involved in case this point is not apparent from the abbreviation for the periodical cited.

Library

In accordance with the plan to build up the book collection of the library, especially in certain fields, about 800 items were added this year. These are almost entirely recent publications acquired by gift or purchase, which bring the total collection to approximately 4,065 volumes, including bound serials.

A physical rearrangement of one of the most valuable files in the library, the cumulation of entries in the indexes of The Journal, has been accomplished. For convenience, the file of authors is in three parts, the first including cards for the years 1911-1932, the second extending through 1944, and the third beginning with the next year. A separate subject file begins with 1911 and extends through 1950, a new file having been started in 1951 in order to make the entries for recent volumes more accessible. The author and subject cards covering book reviews published in The Journal are contained in a special file. The index cards for the 1953 volumes were added to these collections as they were prepared in the library.

Requests for periodical loans and package libraries have fallen behind the demands of previous years, probably in a large part due to the availability of similar services to physicians locally. These facilities have fortunately improved in the last years even for borrowers in rural areas. Although the package library service was originally intended for physicians in such locations, a check of loans for this year shows that 45% were made to borrowers in cities with over 50,000 population. The records are naturally influenced by the location of the Association in Chicago, since 98 packages were loaned in the city and its suburbs in the first nine months of the year. Twenty went to New York City, 8 to Brooklyn, 10 to Philadelphia, 8 to Los Angeles, 7 to Boston and 11 to Memphis, the home of a regular borrower who writes, "If the whole medical profession knew about your library, they would all be better doctors." It is gratifying that every state is represented, however.

The periodical loans present a different geographical picture because many librarians, knowing the generous resources of the library's periodical collection, borrow for individuals whom they serve and because certain physicians make continuous use of this privilege. The Chicago area accounts for over 15% of the loans, but here again the service reaches every state.

The number of subject headings covered by package library loans has increased 15% over last year's figure of 420. Sixty-seven requests were for material on cancer and other tumors, 66 on ophthalmology, 28 on toxicity of specific drugs, 22 on anesthesiology, 18 on alcoholism, and 12 on tobacco. Tuberculosis, poliomyelitis, diabetes, multiple sclerosis, and peptic ulcer were the specific diseases that brought the most inquiries.

In addition to requests for periodical loans and package libraries, the library answered about 700 letters involving reference work. Mention should also be made of the numerous telephone calls and personal inquiries from visitors and the headquarters staff.

Report of Department of Records and Circulation

DIRECTORY-BIOGRAPHICAL DIVISION

Work on the 19th edition of the American Medical Directory was deferred again during 1953 so that current information on the membership status of physicians could be transferred to the biographical records. In 1950, the membership structure of the American Medical Association was changed, so that a physician who was a member of his constituent association was no longer automatically a member of the American Medical Association. This structural change, the confusion resulting from the collection of membership dues through the county and state societies, the new types of membership in the Association based on the physician's membership classification in his constituent association, and the work of transferring the membership records to an I. B. M. system, have been the principal factors which have delayed the establishment of accurate and current records. In the next edition of the Directory, the following types of membership in the American Medical Association will be indicated: (1) active membership; (2) associate membership; (3) affiliate membership; (4) service membership; and (5) honorary membership.

As of Sept. 1, 1953, biographical information on 31,993 new physicians has been added to the Directory records, and 151,503 changes of address have been recorded. Of this number, 57,978 were local changes, 92,032 were changes from one city to another, and 1,403 were miscellaneous changes. Because of death, the names of 14,625 physicians were deleted. Before the end of 1953, information cards will have been sent to all physicians listed in the biographical records, requesting up-to-date information on residence and office addresses, and type of practice. According to current plans, the 19th edition of the Directory should be completed and ready for delivery late in 1954.

The sale on the 18th edition of the American Medical Directory, issued in June, 1950, was 19,540 copies, which exhausted the supply of this issue. The final sale on the 1950 edition compares with a sale of 7,899 copies of the 17th edition, published in 1942, and a sale of 7,322 copies of the 16th edition, published in 1940. The income from the sale of the book, from advertising receipts, and particularly from the Directory Report Service (a supplementary service furnished on a subscription and service-fee basis to large mailers of circular material) has helped to defray the expense of maintaining the records of the Directory Division.

The Directory-Biographical Division continues to act as a clearing house of information on physicians for most of the Councils, Bureaus, and Departments of the Association, as well as for other official bodies, commercial and philanthropic organizations, government agencies, and the lay public. During the past year, the information section of the Directory Division has handled an average of 100 telephone calls a day and more than 5,200 mail inquiries during the year concerning physicians. In addition, more than 9,000 membership applications have been checked for the Secretary's Office; 5,000 license applications have been processed for the Council on Medical Education and Hospitals; and 2,200 applications have been checked for five of the examining boards in a medical specialty. The division routinely checks information on authors, participants in meetings and conferences, prospective advertisers, and correspondents for various Headquarters' activities. The Directory-Biographical Division, as a part of the Department of Records and Circulation, has worked closely during the past two years with the Membership-Subscription Division in clarifying the location, professional appointments, and membership status of physicians.

MEMBERSHIP AND SUBSCRIPTION DIVISION

The report on the work of the Membership and Subscription Division will be found in the Report of the Secretary.

Report of Committee on Mental Health

This is the first annual report of the Committee on Mental Health since its appointment by the Board of Trustees in late 1951. Present members of the Committee are Drs. Leo. H. Bartemeier, Chairman, Detroit; Lauren H. Smith, Vice Chairman, Philadelphia; Walter H. Baer, Peoria, Ill.; Hugh T. Carmichael, Chicago; Francis M. Forster, Washington, D. C.; M. Ralph Kaufman, New York; Maurice Levine, Cincinnati, and Richard J. Plunkett, Secretary, Chicago.

The establishment of this Committee as a standing committee of the Board of Trustees relates historically to the formation of a temporary Committee on Mental Health, which was appointed by the Board in 1930 and of which the late Dr. H. Douglas Singer, Chicago, was Chairman. The temporary committee was carried through July, 1933, during which time an over-all study of mental health practices in the United States was made and a report published in the Proceedings of the House of Delegates, 84th Annual Session, Milwaukee, Wis., June, 1933. This report covered the general aspects of mental health work at that time, such as scope of treatment, preventive practices in mental illness, relationship between the medical profession and lay groups in mental health, organization for mental health education, and legal aspects of mental illness. The temporary committee recommended that a permanent bureau or committee on mental health be established "to take such steps as will enable the profession as a whole to assume the leadership in mental health which is its proper responsibility." A permanent committee was not formed at that time, however. The tremendous extent of the problem became apparent in the interim and, with the growing recognition of the need for closer liaison between psychiatry and general medicine brought more sharply to attention by experience gained in World War II, it became evident that a standing committee devoting its efforts only to this field was necessary.

The first official meeting of the Committee on Mental Health was held at Association headquarters in March, 1952. At this first meeting officers were elected and an executive committee appointed. The Committee gave consideration at its first meeting to the many problems which the members felt would be of sufficient interest to warrant further study. These included:

1. Medical education
   (a) Undergraduate
   (b) Postgraduate
   (c) Special work for persons not in the field of psychiatry
   (d) Relationship of residency training to certifying boards
2. Psychology
   (a) Training of psychologists (how much psychiatric training is being given and under what supervision)
   (b) Licensure (certification, which should specify definition and duties)
3. Psychiatric units in general hospitals
4. Stimulation of medical students and other personnel (medical) to train in the field of psychiatry
5. Improvement of state mental hospitals and private psychiatric hospitals
6. Laws relating to commitment to hospitals for mentally ill

7. Laws relating to special groups (such as sex offenders, those under indictment for crime, etc.)

8. Development of outpatient clinics (mental health clinics)

9. Research in mental illness.

The next regular meeting was held on July 10 and 11, 1952, at which time Dr. Richard J. Plunkett was appointed as full-time secretary with offices to be set up at Association headquarters on Sept. 1, 1952. Dr. Daniel Blain was appointed as consultant to the Committee. The Committee has now held seven meetings, three in 1952 and four in 1953.

Licensure or Certification of Clinical Psychologists

One of the first matters of importance referred to the Committee concerned the official attitude of the Association toward licensure or certification of clinical psychologists. The Committee reviewed a report on this subject which had been prepared by Drs. Gerty and McKay and Mr. Holloway of the Bureau of Legal Medicine and Legislation, and consulted with members of other interested groups. The Committee recognized the complexity of the problem and with few exceptions agreed with the manner in which the problem was presented in the body of the "Gerty Report." However, inasmuch as the Committee felt that clinical psychologists could not in any way be qualified by their training and experience to function independently as psychotherapists, it recommended that the Association adhere to a policy which defines the practice of psychotherapy as an integral part of the practice of medicine and that the Association present a medical point of view in relationship to any attempt to recognize the clinical psychologist legally.

Psychiatric Communications Privileged

Because of its importance to psychiatrists particularly, the Committee gave consideration to a request for support in a situation where a psychiatrist was asked in court to give information relating to personal matters that may have been disclosed to him by a private patient. The psychiatrist had refused to testify before a notary with the conviction that the communications between the patient and the psychiatrist were or should be privileged. The opinion rendered in this matter by Judge Harry M. Fisher in the Circuit Court of Cook County, Ill., was believed by the Committee members to be of such importance to psychiatrists and physicians with reference to the patient-doctor relationship that arrangements were made for its publication. This report appeared in the Nov. 22, 1952, issue of The Journal.

Mental Health Activities of State Medical Associations

Following a letter survey addressed to state medical associations concerning the activities of these associations in mental health, the Committee compiled a report for distribution to the state associations and included a list of 13 suggested activities in which state association committees on mental health might take an active interest. They are as follows:

1. Study of Blue Cross-Blue Shield and other medical service plans to determine ways by which these plans may more effectively provide for treatment of mental and emotional illness.

2. Establishment of citizen groups for promotion of mental health education services (women's auxiliaries).

3. Recommendations to legislatures for increased budgets for mental institutions. (The present average is about $2 per patient per day for patient maintenance.) It has been demonstrated that this low budgetary level is responsible in great part for the present nationwide difficulty in properly caring for patients in mental institutions. The Committee on Mental Health of the American Medical Association and the American Psychiatric Association are both in agreement that budgetary levels need to be materially increased. Under present conditions, they should approximate a level of $5 per patient per day.

4. Serving as a central office for dissemination of information on programs for mental health to the medical profession and public.

5. Efforts toward the establishment of psychiatric departments or services in general hospitals and increasing other psychiatric services in the community.

6. Recommendations to legislative committees of state medical associations that changes or amendments be made in medical practice acts to include mental illness and psychotherapy as being within the legal definition and responsibility of the practice of medicine.

7. Improvement of facilities and level of professional care in state institutions for care of the mentally ill.

8. Establishment of facilities for psychiatric consultation to courts and penal institutions.

9. Review and sponsorship of legislation for state mental health activities relating to problems of alcoholism and addiction.

10. Sponsorship of improved state laws for commitment to mental institutions and provision for and encouragement of voluntary admissions to mental institutions.

11. Sponsorship of programs for postgraduate education of physicians in the utilization of psychiatric principles in the practice of medicine.

12. Sponsorship of programs in psychiatry and mental health in county medical society meetings during Mental Health Week in May of each year.

13. Encourage the setting up of collaborating committees on mental health in all county medical societies.

National Conference on Mental Health

The Committee has planned, with the responsible officials of the American Psychiatric Association, for a conference to be jointly sponsored by the American Medical Association and the American Psychiatric Association with representatives of some 60 or more national organizations that are actively interested and working in the field of mental health. This meeting will be held on Oct. 24 and 25, 1953, in Washington, D. C. The purpose of the conference will be to provide for an interchange of information about organizational activities and to promote more effective collaboration among the participating organizations. The conference will cover the general topics of education in mental health, research in mental health, treatment in mental illness, and prevention of mental illness. A report of the proceedings will be published following the meeting.

Subcommittee on Alcoholism

In October, 1952, the Committee on Chronic Diseases disbanded its subcommittee on alcoholism, and the problem was transferred to the Committee on Mental Health. In June, 1953, the Committee met with Drs. Harold W. Lovell, Selden D. Bacon, and Marvin A. Block to discuss the setting up of a new subcommittee under the Committee on Mental Health. The question of what direction the new subcommittee on alcoholism should take in relation to medicine as a whole was discussed in considerable detail and the objectives tentatively outlined as follows:

1. To promote the inclusion of proper teaching on alcoholism and its treatment in the curriculum of medical schools throughout the country;

2. To promote the establishment of committees on alcoholism in both county and state medical societies;

3. To establish terminology and definition in the field of alcoholism;

4. To urge medical service insurance companies, the Blue Cross-Blue Shield, etc. to accept and treat alcoholism as a disease, giving full coverage under present policies as is now done for other diseases, and

5. Passage of new legislation to get rid of present antiquated laws.

Following this meeting it was decided that the appointment of the new subcommittee should be temporarily deferred until the Committee has had opportunity to make several field studies of programs in alcoholism that are operating effectively within or under the sponsorship of state or county medical societies.

Headquarters

Through its headquarters office the Committee has been working out means for effective collaboration with other committees and bureaus in the aspects of their work that pertain to psychiatry and mental health. Useful mutual contacts have been established with the Woman's Auxiliary, Bureau of Legal Medicine and Legislation, Bureau of Health Education, Council on Medical Education and Hospitals, Council on Physical Medicine and Rehabilitation, Committee on Medical Motion Pictures, Council on Industrial Health, Bureau of Investigation, and Department of Public Relations.

Future Plans

At the present time the Committee is undertaking exploratory discussions with the chairman and members of the Central Inspection Board of the American Psychiatric Association toward the formation of plans for a cooperative effort between the Committee on Mental Health and the Central Inspection Board for the inspection and rating of United States and Canadian mental institutions. The Committee feels that such a cooperative effort would bring the combined effect of the prestige of both the American Medical Association and the American Psychiatric Association toward raising the standards of care and treatment of patients in mental institutions, which are now in most instances considerably below the standards of general hospitals. Certain tentative proposals have already been made, but these have not as yet been approved by the members of the Central Inspection Board.

Report of Council on Pharmacy and Chemistry

The Council on Pharmacy and Chemistry has continued to serve the medical profession primarily through its program of critical evaluation of new drugs in order to ascertain the true value, hazards, and limitations of these agents. There is no doubt that the present era in medicine is characterized by revolutionary developments in the field of therapeutics. New drugs are being introduced at an increasingly rapid rate. Many of these new medicinal agents are extremely potent and capable of doing more harm than good if administered without due appreciation of their contraindications or observance of necessary precautionary measures. The average physician has neither the time nor the facilities to experiment with new drugs in order to determine proper indications for use, dosage, undesirable side-effects or hazards, and the precautions necessary to allow for relatively safe use. He must rely on reputable sources for complete information in this regard. The efforts of the Council to provide authoritative information on the proper usage of medicinal agents are being appreciated to an ever-increasing extent.

Evaluation of Drugs for Acceptance

The drug acceptance program continues to be the major activity of the Council. The success of this program is largely dependent on those pharmaceutical manufacturers who voluntarily cooperate with the Council by submitting worth-while new products for evaluation. The continued expansion of the program offers proof of increasing cooperation by the drug industry. During the period from Sept. 1, 1952, to Sept. 1, 1953, there were 282 drug products submitted for acceptance. This represented an increase of 82 over the previous year. Of all the drugs submitted this past year 37 represented distinctly new contributions to the medical armamentarium. This represented an increase of eight over the previous year. It would thus seem apparent that pharmaceutical firms in general are fairly well satisfied with the Council's rules governing acceptance and are not fearful of having worth-while products subjected to scrutiny and evaluation by an independent body of experts in the field of therapeutics.

Selection of suitable trade and nonprotected names for new drugs is becoming increasingly difficult. Not infrequently drug firms approach the Council regarding the acceptability of proposed nomenclature for new drugs before such products are ready for the market. By collaborating in this manner needless embarrassment or delay in acceptance has often been obviated.

The Council has come to depend to an increasing extent on consultants in various specialties for advice or assistance in resolving many questions relating to the propriety of new claims for medicinal agents. The valuable services of these consultants has often made it possible for the Council to keep pace with the rapid advances that are being made in therapeutics and to expedite the drug acceptance procedure.

Meetings

The regular activities of the Council, including such matters as the consideration of products for acceptance and adoption of reports for publication, continue to be conducted through the medium of a biweekly confidential bulletin. However, the annual meeting of the Council provides an opportunity to discuss or review important problems relating to drug therapy, to consider modification or extension of activities and procedures, and to deliberate over the reports received from the various standing committees. During the meeting last year considerable time was devoted to a discussion of the problem of blood dyscrasias resulting from drug therapy and of possible means of mitigating this problem.

Correspondence

Most correspondence deals with matters relating to the drug acceptance program and the various publications issued or sponsored by the Council. In addition, several thousand inquiries from practicing physicians pertaining to drugs and therapeutics are answered by the Council office each year. Requests for information relating to particular drugs or therapeutic procedures are also received from numerous lay and professional groups or organizations. Many telephone inquiries are answered directly by the Council office staff.

Collaboration

Every effort is made to provide full collaboration with other groups or organizations on matters of mutual interest. Information is regularly exchanged between the Council office and the revision committee of the United States Pharmacopeia and National Formulary, the Federal Food and Drug Administration, and the United States Public Health Service. Information relating to the nomenclature as well as to the tests and standards for new drugs is also exchanged with groups or agencies in foreign countries. The program of collaboration with the revision committee of the International Pharmacopeia on the matter of selecting nonprotected names for new drugs has been continued. The Council supported the American drug industry in its criticism of the program involving the international adoption of nonproprietary names for drugs and aided in securing the adoption of an acceptable revised procedure in this regard. Not infrequently the Council office is also requested by other bureaus or departments at American Medical Association headquarters to furnish advice or assistance in matters involving drugs or therapeutics with which they are concerned.

Publications and Reports

New and Nonofficial Remedies, an annual publication of the Council, appeared in July of this year. N.N.R. contains information on the actions, uses, and doses of drugs accepted by the Council. The tests and standards for these products, which formerly appeared in N.N.R., have now been published as a separate volume, *Tests and Standards for New and Nonofficial Remedies.* This division of the book was undertaken so that information of greatest interest to physicians could be presented at minimum cost.

Fundamentals of Anesthesia, a complete revision of the 1944 edition, is now near the final stages of production and should be ready for distribution late in 1953. Manuscripts for the present edition were prepared by well-known anesthesiologists from various parts of the United States. The editorial task of integrating these manuscripts into the proposed style and outline of the book was supervised by a revision committee of prominent anesthesiologists in the Chicago area.

Glandular Physiology and Therapy, also completely revised, should be ready for publication early in 1954. All manuscripts are now in the hands of the publisher.

The Annual Reprint of the Reports of the Council on Pharmacy and Chemistry was published in a paper cover at Association headquarters this year and may be obtained directly from the Order Department.

Proceedings of the Second Conference on Steroids and Cancer, the complete minutes of the last meeting of the Subcommittee on Steroids and Cancer of the Committee on Research, has been lithographed and is available as a paper-covered volume from the Order Department at Association headquarters.

Committee on Pesticides

This is the fourth annual report of the Committee on Pesticides. The following activities were engaged in by the Committee during the past year in furtherance of its study program on the health hazards of pesticides and related materials.

Educational and Informational Projects.—The series of Committee reports reviewing medical and public health aspects of pesticidal chemicals has been extended to twelve with the publication in The Journal of statements on "Use and Abuse of Generic (Coined Common) Names for Pesticides"; "Toxicology in Medical Curriculum"; and "Health Problems of Vaporizing and Fumigating Devices for Insecticides: A Supplementary Report." Fifteen thousand reprints of these latest reports have been distributed to medical societies, public health and regulatory officials, and various other organizations and individuals in this country and abroad.

An exhibit entitled "Accidental Poisoning in Children" has been prepared by the office of the Committee. It illustrates typical fatal accidents in children due to drugs, household chemicals, and pesticides which were reported to the Committee office. The exhibit was originally presented at the Annual Meeting in New York in June, 1953, and has been subsequently displayed at the annual meeting of the American Pharmaceutical Association and the Cleveland Health Museum. A pamphlet prepared as a supplement to this exhibit has received wide circulation.

The first in a series of Outlines of Information on Pesticides have been developed by the Committee for use as aids in teaching. The outlines include a summary description of the pharmacological and toxicologic characteristics of various groups of pesticidal compounds, data sheets on individual pesticidal chemicals, and references to pertinent literature.

A Committee-sponsored radio transcription, "Defense Against Poisons," has also been prepared. The program, a 15 minute dramatization of typical cases of poisoning resulting from the careless use of agricultural or household chemicals, emphasizes the need for reading and heeding the directions contained on the label for such products. This transcription is available for use on radio programs sponsored by local medical societies.

A statement on the importance of including information on the pesticides in the pharmacology programs of medical and pharmacy schools was prepared by the Committee and presented at the annual meeting of the American Society for Pharmacology and Experimental Therapeutics.

Investigative and Research Projects.—The Committee office has been called on to implement a resolution adopted by the House of Delegates in December, 1951, concerning the accumulation and dissemination of information on potentially poisonous household chemical products. A compilation of trade names, composition, and labeling of widely distributed products in this category was undertaken during the past year. Reports of poisoning from mishandling, which appear in the literature or are on file at headquarters, are also being compiled. The Secretary represented the Committee at the Conference on Home Accident Prevention, University of Michigan, January, 1953, and on the American Standards Association's Committee on Hazards to Children.

Criteria for the evaluation of the safety of toxic substances for general use have been developed and adopted by the Committee on Pesticides. These criteria are presently being employed by the Committee as a yardstick on which the merits and potential hazards of a new compound or a novel method of application of an established substance may be measured. Toxicologic data and use factors are the basis for these criteria.

Studies involving the compilation and evaluation of cases of injury from pesticides were also continued. Accident reports were received from state and local health departments, industrial commissions, coroners and medical examiners, physicians in general practice, and other responsible sources. Special studies devoted to compiling cases of injury from insecticide residues, vaporizer chemicals, and organic phosphorus insecticides were begun or continued from the previous year.

Cooperative Projects.—The Committee continues to collaborate with other groups and organizations on problems of mutual concern. Technical information and other pertinent data was exchanged regularly with the California Department of Public Health, Federal Food and Drug Administration, United States Department of Agriculture, and United States Public Health Service. The Committee continued to serve as an advisory group to the Interdepartmental Committee on Pest Control in the selection of coined common (generic) names for pesticides. It adopted the Interdepartmental Committee rules for pesticides and mediated the consideration and adoption by the Council on Pharmacy and Chemistry of these rules which are in conformance with the basic principles employed by the Council for the selection of generic names for therapeutic substances. The Committee on Pesticides also cooperated with the Committee on Accident Prevention of the American Academy of Pediatrics in several areas of common interest. Liaison was maintained with other scientific groups and academic centers actively engaged in studies on pesticides.

Service Activities.—During the past year the Committee was asked by public and private agencies to consider and render opinion on a variety of medicoeconomic problems involving the hazardous potentialities of pesticides. Information and assistance were provided on many problems. Several hundred inquiries on the toxicity of pesticides and other chemicals in common use were answered by the Committee office staff. Assistance was provided various departments at Association headquarters in the preparation of book reviews and Queries and Minor Notes, and in the review of manuscripts and advertising on matters involving toxicology.

REPORT OF COMMITTEE ON RESEARCH

INVESTIGATIONS UNDER COMMITTEE-SPONSORED CONTRACTS

These investigations, while sponsored by the Committee on Research, have funds supplied to investigators by other agencies.

Investigation of Adjusted Ophthalmic Solutions.—The study of this problem was conducted under a grant from the American Pharmaceutical Association. The purpose of the investigation was to establish the clinical significance of the pH of ophthalmic solutions. The final report on this work was published in the *Journal of the American Pharmaceutical Association,* June, 1953.

Pendiomide.—The evaluation of this new ganglionic blocking agent in the induction of hypotension during surgery was undertaken at the Duke University School of Medicine with funds furnished by a grant from Ciba Pharmaceutical Products, Inc.

COOPERATIVE INVESTIGATIONS

The Committee on Research and its Subcommittee on Steroids and Hormones have arranged programs of research which pool the resources and experiences of large groups of investigators on specific research problems. Cooperative investigations of this type are particularly suited to such areas of research where single investigators cannot accumulate a sufficient number of cases annually to achieve statistical significance for their observations. By strict application of criteria for admission of cases to the study and by limitation of treatment to specified protocols, a relatively high degree of uniformity in diagnosis and treatment is secured for the data under analysis. Funds for support of the administration of these programs are furnished by the American Medical Association. The drug products utilized are supplied gratis by various pharmaceutical manufacturers. Further support is secured by the individual investigator from various granting agencies.

Influence of Steroid Hormones in Cancer.—The Subcommittee on Steroids and Hormones has continued into the sixth year studies of the influence of various hormones on inoperable cancer of the breast, genital organs, bladder, and bone. Thyroid cancer has been added to this group under observation during 1953. Compounds currently under investigation include TACE, methylandrostenediol, stanalone (dihydrotestosterone), and two long-acting testosterone esters, testosterone cyclopentyl propionate and testosterone phenyl propionate.

Investigation of Influence of Hormones on Pregnancy Complicating Diabetes Mellitus.—Scheduled for the fall of 1953 are a series of conferences of study groups of the Subcommittee on Steroids and Hormones to set up criteria for admission of cases and for the establishment of protocols for treatment of pregnancy complicating diabetes mellitus. A large group of obstetricians have evinced interest in this cooperative study. From preliminary estimates approximately 200 cases will be available for admission and analysis of data annually.

EDUCATIONAL AND INFORMATIONAL PROJECTS

During 1953 questionnaires relating to the extent of research activities have been distributed to a randomly selected list of 11,340 physicians. In addition, similar questionnaires were distributed to the military services, Public Health Service, Veterans Administration, medical schools, and pharmaceutical firms. This material will undergo analysis in the Committee office during the latter half of 1953 and early 1954.

Publications under auspices of the Committee include: Hypoplastic Anemias and Related Syndromes Caused by Drug Idiosyncrasy, Edwin E. Osgood, M.D., and Effects of Intensive Sex Steroid Hormone Therapy in Advanced Breast Cancer, B. J. Kennedy, M.D., and Ira T. Nathanson, M.D.

GRANTS-IN-AID

The establishment of the William Volker Fund extends the grants-in-aid program of the Committee on Research of the Council on Pharmacy and Chemistry into the basic medical sciences. When first organized as the Therapeutic Trials Committee, and, up to the present, fundamental objectives were to stimulate progress in the control and treatment of disease through facilitating investigations to establish the usefulness of diagnostic, preventive, and therapeutic agents. The William Volker Fund is not specifically restricted to grants in special fields such as heart disease, cancer, or hypertension. The Committee on Research feels that this is commendable, since the progress of medical research requires broad investigations in all fields of medical endeavor, including the basic sciences. This approach should furnish better understanding of the normal cell and organ functions than can be secured by research directed primarily to departures from the normal processes.

The Subcommittee on Grants-in-Aid has approved the following grants since Jan. 1, 1953. Listed after the grants for the current year are some grants of previous years made by the former Therapeutic Research Committee as well as by the Subcommittee on Grants-in-Aid in which an unexpended balance remains or the work is not yet completed.

Grant 75, $500.00 to Dr. Milton M. Ashley, University of Southern California, for study of localization of brain tumors and localization of intra-abdominal neoplasms.

Grant 76, $450.00 to Dr. Gordon H. Bryan, Montana State University, for assay of cardiotonic drugs by a chick embryo method, part II.

Grant 77, $500.00 to Dr. Morley Cohen, University of Minnesota, for experimental methods of intracardiac surgery under total venous inflow occlusion.

Grant 78, $500.00 to Dr. T. S. Danowski, University of Pittsburgh, for studies of steroid antagonists.

Grant 79, $350.00 to Dr. Calvin Hanna, University of Tennessee, for study of papaverine analogs as long acting coronary vasodilators.

Grant 80, $400.00 to Dr. Mervyn Gilbert Hardinge, College of Medical Evangelists, study time factor for inoculating tumors in animals fed potential antineoplastic agents.

Grant 81, $500.00 to Dr. Walter R. Hearn, Baylor University, for iodination of tyrosine peptides.

Grant 82, $250.00 to Dr. Walter C. Hess, Georgetown University, for stimulation of liver glycogen production by cortisone and other amino acids, in particular, glycine.

Grant 83, $350.00 to Dr. Julius B. Kahn Jr., University of Cincinnati, for the development of a method for the separation of veratrum alkaloids from biological tissues.

Grant 84, $500.00 to Dr. F. E. Kelsey, University of South Dakota, to study metabolism of selenium.

Grant 85, $500.00 to Dr. Matthew N. Levy, Union University, to study the effects of sympatholytic agents upon the peripheral vascular system.

Grant 86, $430.00 to Dr. Ernst Trier Morch, University of Chicago, for respiratory acidosis during anesthesia.

Grant 87, $350.00 to Dr. Wilhelm Raab, University of Vermont, to study the effect of sympatholytic drugs upon the pharmacodynamic activity of intrinsic myocardial norepinephrine and epinephrine.

Grant 88, $500.00 to Dr. Irwin H. Slater, University of Rochester, for the synthesis of drugs to control or eliminate spasticity following oral administration, division of pharmacological testing.

Grant 89, $500.00 to Dr. Jay A. Smith, Chicago Medical School, to study bronchoconstrictor effects of thiamine.

Grant 90, $500.00 to Dr. William M. Wallace, Western Reserve University, for the therapeutic evaluation of "BAL" and "Versene" in the clinical and experimental therapy of lead poisoning.

Grant 91, $500.00 to Dr. Nicolas T. Werthessen, Southwest Foundation for Research and Education, for the examination of relative potency as to specific pharmacological effects of various natural and synthetic estrogens.

Grant 92, $500.00 to Dr. William Q. Wolfson, Wayne University, for studies on methods and applications of paper electrophoresis and related techniques of possible value in clinical investigation.

Grant 93, $400.00 to Dr. Samuel B. Barker, Medical College of Alabama, to study the influence of thyroid hormone on enzyme systems.

Grant 94, $300.00 to Dr. Carmen Thomas Bello, Temple University, to study effect of veratum alkaloid (Veriloid) with serpentia on hypertensive patients.

Grant 95, $400.00 to Dr. Carl A. Dragstedt, Northwestern University, for studies on the cardiac glycosides.

Grant 96, $400.00 to Dr. Henry Earl Evert, State University of New York, to study the oxidation-reduction potential of thyroxine and related compounds and its relationship to biological oxidation.

Grant 97, $300.00 to Dr. Ernest Jawetz, University of California, for development of a simple test for bacterial sensitivity to antibiotic combinations, suitable for the clinical laboratory.

Grant 98, $300.00 to Dr. Kwang Soo Lee, Jefferson Medical College, to study the mechanism of action of digitalis principles.

Grant 99, $300.00 to Dr. Aaron Bunsen Lerner and Dr. Thomas B. Fitzpatrick, University of Oregon, to study the effect of low sulfur diets on psoriasis.

Grant 100, $350.00 to Dr. William T. Newsom, University of Oklahoma, for therapy of hyaline membrane disease of newborns and prematures.

Grant 101, $250.00 to Dr. Ralph W. McKeen, University of California, for growth and metabolic studies of Ehrlich's mouse ascites carcinoma cells.

Grant 102, $400.00 to Dr. J. Alfred Rider, University of California, to study cholinesterase activity in patients with peptic ulcer correlated with gastric secretory activity.

Grant 103, $375.00 to Dr. Wayne Rundles, Duke University, study of serum proteins in hemopoietic malignancies.

Grant 104, $300.00 to Dr. Clarence G. Sutherland, University of Arkansas, to study the effect of cortisone on ureteral intestinal anastomosis.

Grant 105, $400.00 to Dr. Daniel T. Watts, West Virginia Medical School, to study the effect of histamine and antihistaminic agents on respiratory resistance in guinea pigs.

Grant 106, $500.00 to the University of Louisville, to be divided between Dr. Joseph P. Holt for study of venomotor mechanisms in the regulation of arterial pressure and Dr. Peter K. Knoefel to study the pharmacology of the renal circulation.

Grant 107, $500.00 to the Michael Reese Hospital Research Institute to be divided between Dr. Simon Rodbard for frequency analysis of heart sounds and murmurs and Dr. Herta Sorter to study blood chemistry in the aged.

Grant 108, $600.00 to the University of Texas to be divided between Dr. Marian L. Cramer for studies on the mode of action of streptomycin and Dr. Lothar L. Salomon for studies on ascorbic acid and cholesterol: Their metabolic fate under conditions of "Stress."

Grant 109, $800.00 to the University of Washington to be divided between Dr. John L. Bakke to study adrenal-thyroid relationships, Dr. Donald F. McDonald for experimental nonhormonal chemoinhibition of the mammalian prostate: II. human benign prostatic tumors, and Dr. H. W. Youngken Jr. for the production of labelled digitalis glycosides in digitalis purpurea by the use of C^{14} carboxyl labelled sodium acetate.

Grant 110, $350.00 to Dr. Arnold D. Welch, Yale University, to investigate the significance of the carboxyl group of orotic acid in the biosynthesis of pyrimidine-containing nucleotides.

Grant 111, $500.00 to Dr. Margaret Q. Jenkins, Medical College of South Carolina, to study glomerulonephritis in sickle cell anemia.

Grant 112, $400.00 to Dr. Charles Weiss, Albert Einstein Medical Center, to investigate the mechanism of caseation and softening in experimental tuberculosis of rabbits.

Grant 113, $500.00 to Dr. Miriam E. Simpson and Dr. Gertrude Van Wagenen, University of California and Yale Medical School, to study the effect of gonadotrophins in immature male and female Macaca mulatta.

Grants from the Brant Fund:

Brant Grant 3, $350.00 to Dr. G. J. Tarleton Jr., Meharry Medical College, for studies on irradiation injury in mice; protection of mice against x-irradiation.

Brant Grant 4, $350.00 to Dr. William H. Olson, Medical Research Institute of Michael Reese Hospital, to investigate primary depression by insulin of gastric secretion in normal man.

Grants issued before Jan. 1, 1953:

Grant 408, $300.00 to Ephraim Shorr, Cornell University Medical College, the effect of progesterone on the vaginal smear.

Grant 454, $50.00 to W. L. Mendenhall and Albert J. Plummer, Boston University, the quantitative determination of theophylline.

Grant 455, $100.00 to Frederick H. Pratt and Marion A. Reid, Boston University, the effect of cardiac drugs on the denervated lymphatic heart.

Grant 499, $200.00 to Joseph Litwins, New York Medical College, the chemistry and hematology of blood donars.

Grant 506, $600.00 to Andrew F. Burton, Howard University, (1) the distribution of sulfanilamide in maternal and fetal tissues at various stages of pregnancy and (2) the toxic effects of quinine on the fetus in utero.

Grant 561, $400.00 to G. L. Cantoni, Long Island College of Medicine, the mechanism whereby potassium exerts its effect on the intact smooth muscle.

Grant 572, $1,000.00 to C. H. Werkman, Iowa State College Department of Bacteriology, the mechanism of action of penicillin and streptomycin.

Grant 575, $1,000.00 to E. Barrett, L. J. Poo, L. Way and W. Yuen, Stanford University School of Medicine, reasons for the differences in the effects of various proteins on the rate of growth of the kidney.

Grant 586, $500.00 to Harold D. Green, Wake Forest College, Bowman Gray School of Medicine, the role of the liver and kidneys in shock.

Grant 587, $500.00 to Richard C. de Bodo, New York University, the antidiuretic action of some depressants of the central nervous system.

Grant 603, $500.00 to Joseph H. Cort, Yale University, the effects of chronic stimulation of the autonomic nervous system of normal unanesthetized animals.

Grant 607, $200.00 to Boyd Houchin, University of Louisville, the qualitative estimation and differentiation of tocopherols in blood of patients with congestive heart disease before and after the parenteral administration of dl-alphatocopheryl phosphate.

Grant 612, $500.00 to J. Lerman, Massachusetts General Hospital, therapeutics of hyperthyroidism.

Grant 613, $400.00 to Eugene P. Pendergrass and Harry P. Schenck, University of Pennsylvania, the effects of radiation on the lymphoid tissue of the human nasopharynx.

Grant 614, $500.00 to Richard C. de Bodo, New York University, the mechanisms of insulin hypersensitivity.

Grant 618, $500.00 to T. T. Chen, State Teachers College, Bemidji, Minn., an antibiotic substance which may have therapeutic value with respect to protozoan diseases.

Grant 622, $750.00 to Lester M. Morrison, College of Medical Evangelists, the role of lipoid metabolism in the pathogenesis of coronary artery thrombosis and in atherosclerosis of human subjects.

Grant 624, $265.00 to S. W. Clausen, University of Rochester, influence of coconut milk on the growth and utilization of vitamin A by the rat.

Grant 627, $500.00 to Janet W. McArthur, Massachusetts General Hospital, adrenal cortical function in diabetic acidosis.

Grant 631, $300.00 to C. P. Kraatz, Jefferson Medical College of Philadelphia, to determine in dogs whether pyridoxine will antagonize the vomiting induced by various types of drug stimulation.

Grant 632, $500.00 to E. B. Carmichael, Medical College of Alabama, meperidine (Demerol) hydrochloride.

Grant 634, $500.00 to M. H. F. Friedman, Jefferson Medical College of Philadelphia, experimental therapy of nonspecific ulcerative colitis.

Grant 636, $500.00 to R. R. Overman, University of Tennessee, mechanisms of ionic imbalance in malaria and associated pathophysiological states.

Grant 638, $500.00 to A. H. Schein, University of Vermont College of Medicine, uric acid levels in humans.

Grant 641, $500.00 to Joseph B. Kirsner, Walter L. Palmer, and William E. Ricketts, University of Chicago, hepatic disease.

Grant 642, $500.00 to Robert C. Lowe, University of Oklahoma, hepatic metabolism.

Grant 644, $500.00 to Albert Milzer, Michael Reese Hospital, a survey of virus and rickettsial infections in Chicago.

Grant 645, $400.00 to Stuart Mudd, University of Pennsylvania, the cytology of normal and phage-infected cells.

Grant 646, $500.00 to T. T. Chen, University of Southern California, antibiotics produced by protozoa, especially Paramecium, to determine their possible therapeutic value.

Grant 647, $500.00 to Irving Siegel, Chicago Medical School, the difference, if any, in the healing of incisions in the pregnant and nonpregnant uterus.

Grant 648, $500.00 to Emmett J. Carmichael, W. H. Johnson and F. A. Key, Medical College of Alabama, toxicity of meperidine (Demerol) hydrochloride.

Grant 652, $500.00 to Robert C. Grauer, Allegheny General Hospital, Pittsburgh, sex hormones in mammary cancer.

Grant 653, $250.00 to Harald Holck, University of Nebraska Foundation, liver and detoxification of Nostal in the rat.

Grant 655, $500.00 to S. W. Britton, University of Virginia, adrenal glands in maintaining upright position.

Grant 657, $500.00 to R. Beutner, T. C. Barnes and Jens Christiansen, Hahnemann Medical College, (1) drugs and skin healing, (2) toxicity of cardiac drugs and (3) Antabuse in alcoholism.

Grant 658, $400.00 to Joseph B. Kirsner, William E. Ricketts, and Walter L. Palmer, University of Chicago, studies on hepatic disease.

Grant 659, $400.00 to John B. Lambooy, University of Rochester, synthesis of 2,3- and 2,6- and 3,5-dihydroxy-phenylalanines.

Grant 2, $500.00 to Percival Bailey, University of Illinois, to investigate stereotoxic apparatus for use on human brains.

Grant 3, $200.00 to Sumner Kalman, Stanford University, to investigate the prolongation of inhibitory effects of steroids on neoplasms.

Grant 5, $200.00 to Joseph R. DiPalma, Hahnemann Medical College and Hospital, to compare the effects of various compounds against quinidine for anti-fibrillatory potency to determine if an effective substitute for quinidine can be found.

Grant 6, $400.00 to Theodore Koppanyi, Georgetown University, to evaluate the effects of intravenous injections of cholinesterases.

Grant 8, $250.00 to James C. Rice, University of Mississippi, to determine the effect of sodium ferricyanide as an antagonist to the action of certain musculotropic poisons.

Grant 9, $500.00 to Miriam E. Simpson and Gertrude Van Wagenen, University of California and Yale University, to study the pituitary gonadotropins in the Rhesus monkey (Macaca mulatta).

Grant 10, $500.00 to Clinton H. Thienes, University of Southern California, to study the effect of nicotine on the metabolism of the brain.

Grant 11, $500 to Harold C. Wiggers, Union University, Albany Medical College, to investigate the production and study of mitral stenosis and/or insufficiency by insertion of substitute plastic valves in dogs hearts.

Grant 12, $200.00 to Alan D. Bass and Henry DiStefano, State University of New York, to investigate alterations in tissue nucleoprotein patterns following administration of therapeutic agents (e. g. morphine, insulin, colchicine).

Grant 13, $400.00 to Edward L. Corey, University of Virginia, the electromyographic study of the human urinary bladder.

Grant 14, $400.00 to T. S. Danowski, University of Pittsburgh, the exploration of the mechanical characteristics and the clinical utility of the Alwall-type artificial kidney.

Grant 15, $400.00 to Andres Goth, Southwestern Medical School of the University of Texas, the experimental reevaluation of analeptics in the treatment of barbiturate intoxication.

Grant 16, $400.00 to A. Clark Griffin, Stanford University, to investigate the alleviation of the symptoms of nitrogen mustards by cystein and thiourea.

Grant 17, $400.00 to Keith S. Grimson, Duke University, to investigate the treatment of aneurysms of the aorta.

Grant 18, $400.00 to Howard L. Holley and James S. McLester, University of Alabama, to investigate potassium intoxication in cardiorenal diseases as a result of using salt substitutes.

Grant 19, $350.00 to Gene Frederick Lata, State University of Iowa, to investigate panthothenic acid and the biosynthesis of cholesterol.

Grant 21, $200.00 to Ethan A. H. Sims, University of Vermont, for studies on the inactivation of adrenal cortical steroids by the rat liver.

Grant 22, $300.00 to Hans Selye, Institute of Experimental Medicine and Surgery Montreal University, to study the pituitary factor which influences barbiturate detoxification.

Grant 23, $300.00 to Thomas G. Morrione, Long Island College Hospital, Brooklyn, N. Y., to investigate alterations in blood glycogen in hepatic disease.

Grant 24, $500.00 to Edward L. Maxwell, Alabama State College for Negroes, to investigate production of androgen by the testes of fetuses.

Grant 25, $400.00 to Dr. Herbert L. Borison, University of Utah, to study the site of emetic action of veratrum alkaloids.

Grant 26, $400.00 to Dr. Clyde W. Phillips, Howard University, to study the effect of steroid hormones on the Mann-Williamson ulcer.

Grant 27, $500.00 to Dr. G. J. Tarleton Jr., Meharry Medical College, for permeability studies on irradiated mice; protection of mice against x-irradiation.

Grant 28, $500.00 to Dr. Harold G. Grayzel, Jewish Hospital of Brooklyn, to study the effect of ACTH and cortisone upon the production of amyloidosis.

Grant 29, $300.00 to Dr. Jens A. Christensen, Hahnemann Medical College, to investigate experimental chemotherapeutic tumor response in animals after pretreatment with arginase.

Grant 30, $300.00 to Dr. Robert H. Dreisbach, Stanford University, to investigate treatment of poisoning from agricultural chemicals.

Grant 32, $250.00 to Dr. Walter C. Hess, Georgetown University, to investigate stimulation of liver glycogen production by cortisone and glycine.

Grant 33, $500.00 to Dr. Alfred G. Lisi, Jefferson Medical College, to study the effect of surface active agents (detergents) on nerves as regards impulse transmission and demarkation potential.

Grant 34, $500.00 to Dr. M. Jane Oesterling, Woman's Medical College of Pennsylvania, to investigate oxidation-reduction reactions influenced by ascorbic acid.

Grant 35, $500.00 to Dr. Stelios C. Samaras, Creighton University, to investigate narcosis and detoxication in relation to reticuloendothelial system.

Grant 36, $500.00 to Dr. Ralph I. Dorfman, Worcester Foundation for Experimental Biology, to investigate metabolism of adrenal cortical steroids by liver tissue.

Grant 37, $500.00 to Dr. Robert W. Heinle, Western Reserve University, for clinical and experimental evaluation of ACTH and cortisone in hematopoitic disorders.

Grant 38, $350.00 to Dr. Ludwik Anigstein, University of Texas, to investigate the effect of cortisone and ACTH on murine bartonellosis and experimental rickettsial infections.

Grant 39, $300.00 to Dr. T. S. Danowski, University of Pittsburgh, to investigate enhancement of the efficiency of the Alwall type artificial kidney.

Grant 40, $300.00 to Dr. Leonard P. Eliel, Oklahoma Medical Research Institute and Hospital, for a study of the mechanism of action of various agents which alter the growth rate of tumor in man.

Grant 41, $300.00 to Dr. George A. Hellmuth, Loyola University, for studies of the formation of spatial vectrocardiographic loops in relation to direct and indirect electrocardiography.

Grant 42, $250.00 to Dr. Howard L. Holley, Medical College of Alabama, for the study of electrolytes in synovial fluid in the normal and arthritic joint.

Grant 43, $400.00 to Dr. Julius B. Kahn Jr., University of Cincinnati, to investigate effects of 2, 3-dimercaptopropanol (Dimercaprol) in the metabolism and effects of barbiturates.

Grant 44, $200.00 to Dr. Kazuo K. Kimura, St. Louis University, to investigate structure-activity relationships of synthetic compounds which possess curare-like action on striated muscles.

Grant 45, $250.00 to Dr. David Lehr, New York Medical College, to investigate sulfonamide mixture therapy.

Grant 46, $250.00 to Dr. James W. Mankin, Bowman Gray School of Medicine, to investigate the effect of gastric acidity on the absorption of quinidine sulfate from the gastrointestinal tract.

Grant 47, $350.00 to Dr. Lester M. Morrison, College of Medical Evangelists, to investigate dietary treatment of coronary atherosclerosis.

Grant 48, $450.00 to Dr. Benjamin De Boer, University of North Dakota, to investigate the action of morphine antagonists on the hyperglycemia produced by morphine and morphine-like compounds.

Grant 49, $300.00 to Dr. Irwin MacKay Murray, State University of New York, to study a method for the quantitative biological assay of adrenal cortical hormones.

Grant 50, $300.00 to Dr. Hugh J. McDonald, Loyola University, to investigate ionographic separation and study of blood plasma constituents.

Grant 51, $250.00 to Dr. R. H. Rigdon, University of Texas, to investigate effect of B_{12} on selenium poisoning in rats.

Grant 52, $300.00 to Dr. Hilton A. Salhanick, University of Utah, to study separation and characterization of a potentiating substance for progesterone.

Grant 53, $300.00 to Dr. Leo A. Sapirstein, Ohio State University, to investigate d-l amphetamine in treatment of edema.

Grant 54, $350.00 to Dr. George H. Scherr, Creighton University, to investigate the effect of gonadotropic hormones on systemic histoplasmosis in mice.

Grant 55, $250.00 to Dr. Lawrence J. Schroeder, Wayne University, for studies on lathyrism.

Grant 56, $300.00 to Dr. Lloyd D. Seager, University of Arkansas, for a study of the sensitivity to ultraviolet light produced by stilbamidine.

Grant 57, $300.00 to Dr. Stuart W. Smith, University of Colorado, for studies on the functional relationship between the neurohypophysis and the anterior lobe of the hypophysis.

Grant 58, $500.00 to Dr. John H. Lamb, Oklahoma Medical Research Foundation, for the investigation of a group of steroids as antifungal agents.

Grant 59, $400.000 to Dr. Klaus R. Unna, University of Illinois, to investigate action of curarizing agents in myasthenia gravis.

Grant 60, $350.00 to Dr. John Franklin Van Pilsum, University of Utah, to investigate the inhibition of uricase by xanthine.

Grant 61, $300.00 to Dr. Arnold D. Welch, Western Reserve University, to investigate the significance of the carboxyl group of orotic acid in the biosynthesis of pyrimidine-containing nucleotides.

Grant 62, $200.00 to Dr. R. W. Whitehead, University of Colorado, for a study of the effects of ACTH, of cortisone, and compound F on the course of poisoning by botulinus and diphtheria toxins.

Grant 63, $300.00 to Dr. Hans H. Zinsser, University of Southern California, for quantitation of sulphur containing amino acids in cystinuria by automatic sample collector purchase.

Grant 64, $400.00 to Department of Pharmacology, Hahnemann Medical College to be divided among Dr. T. C. Barnes to study the effect of drugs on the electroencephalogram of animals during activation by flashing light and Dr. Benjamin Calesnick to study factors influencing cardiac conduction.

Grant 65, $700.00 to the University of Washington, to be divided between Dr. John L. Baake, for the study of adrenal-thyroid relationships and Dr. Frederick Wirth Maire, to study hemorrhagic pulmonary edema produced by hypothalamic lesions.

Grant 66, $390.00 to Dr. J. C. Hayner, New York Medical College, for a preliminary study on the feasibility of building reserves of fetal endocrine material for future implantation.

Grant 68, $500.00 to Dr. Miriam E. Simpson and Gertrude Van Wagenen, University of California and Yale University, to study the effect of gonadotrophins in immature male and female Macaca mulatta.

Grant 69, $500.00 to Dr. Stewart C. Harvey, University of Utah, to study the interrelationships of cardiac glycosides and actions and the effects of cations on digitoxin uptake of the heart.

Grant 70, $400.00 to Dr. Robert I. Lowenberg, Yale University, for ureteral segments used as arterial grafts.

Grant 71, $500 00 to Dr. Edwin Sinaiko, Michael Reese Hospital, Medical Research Institute, for the formation of an artificial bladder.

Grant 72, $500.00 to Dr. Julius Pomeranze, New York Medical College, for blood volume studies in geriatric subjects.

Grant 73, $500.00 to Dr. Lawrence H. Rubenstein, Michael Reese Hospital, for repair of esophageal defects with skin transplants.

Grant 74, $500.00 to Dr. Allan Hurst, National Home for Jewish Children, to study the effect of intermittent positive pressure breathing, and breathing exercises on pulmonary function of the asthmatic child.

Brant Grant 1, $500.00 to Dr. Martin Silberberg, Snodgras Laboratory Hospital division, City of St. Louis, 'Washington University Medical School, to investigate the growth of the mammary gland and hemopoietic tissues in mice receiving grafts of anterior hypophyses, ovaries, and adrenals.

Brant Grant 2, $500.00 to Dr. Sydney William Britton, University of Virginia Medical School for studies of adrenal involvement in maintenance of the upright position.

Following is a list of the investigations conducted with the assistance of grants made by the Committee on Research, reports of which were published:

Little, J. M., and Cooper, C., Jr.: Bioassay Method for Diuretic Substances, Federation Proc. vol. 9, March, 1950.

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Report of Committee on Cosmetics

This is the fourth annual report of the Committee on Cosmetics. During the past year, the Committee continued to encourage the scientific approach in the formulation and manufacture of cosmetics through proper quality controls and thorough laboratory and clinical investigation of new products. The essential medium for implementing this aim is the Committee's evaluation program for cosmetics and allied preparations. All products are evaluated on the basis of data on composition, safety, manufacturing controls, and advertising claims. At the Committee's direction, toxicity and actual use data may also be required. Recently revised copies of the Committee's rules are available on request.

A number of products have been submitted to the Committee during this year for consideration and have successfully met the requirements for acceptance. The majority of these products are regular cosmetic items, while a smaller proportion include cleansing agents, baby products, and industrial protective creams. Descriptive statements of these products are published in the report on accepted products in The Journal. Accepted products are privileged to display the seal of the Committee, which is similar in design to the seals of the scientific councils of the American Medical Association. A pamphlet listing all accepted products is under preparation for general distribution.

Another primary aim which this year's activities continued to foster is the promotion of a better understanding among the medical profession and the public of the true usefulness of cosmetics tempered with a knowledge of their limitations. Particular emphasis is given to those cosmetics which under some circumstances can be harmful. Manufacturers as well as users are urged to exercise proper precautions to insure maximum safety and usefulness.

The dissemination of pertinent information to the medical profession and the public is accomplished through the various mediums available for this purpose. Reports on timely subjects in the cosmetic field are authorized for publication in The Journal and *Today's Health*. An extensive inquiry service conducted by the Committee office staff also serves as an instrument for education. The majority of letters come from practicing physicians and the general public on matters of safety and usefulness. A large portion of the remaining correspondence comes from personnel of firms manufacturing or distributing cosmetics and allied preparations.

As in other years, there has been close cooperation between the Committee and organizations such as Better Business Bureaus, the Federal Trade Commission, the Food and Drug Administration, and newspaper and magazine editors. The Committee also functions in an advisory capacity to the Council on Pharmacy and Chemistry, the Advertising Committee, the Public Relations Department, the Editorial Department, and other groups within the Association where problems of mutual interest exist.

Report of American Medical Association Laboratories

CHEMICAL SECTION

EXAMINATION OF DRUGS FOR ACCEPTANCE BY THE COUNCIL ON PHARMACY AND CHEMISTRY

As in the past years most of the time and effort of the Chemical Laboratory's personnel was directed toward the chemical examination of products presented to the Council on Pharmacy and Chemistry in its acceptance program. The Laboratory's part in the program is to check the drugs for identity, quality, purity, and potency. In the case of products which are new and will be available on the market for the first time, the Laboratory establishes tests for identity, purity, and potency to which these drugs must conform as a part of the Council's acceptance program. Tolerances are established. These tests and standards are incorporated in monograph form and published in THE JOURNAL as portions of the reports of the Council on Pharmacy and Chemistry. At the end of the year the new monographs are incorporated with other standards established in previous years for new and nonofficial drugs. This past year, for the first time, the tests and standards have been published in a volume separate from New and Nonofficial Remedies. The book is entitled "Tests and Standards for New and Nonofficial Remedies." During the past year 248 presentations were referred to the Chemical Laboratory by the Council. There were 530 individual items under consideration. Tests and standards monographs were established for 30 new drugs and the 49 dosage forms into which they were incorporated.

The Chemical Laboratory staff continued in its advisory capacity to the Council on Pharmacy and Chemistry in regard to nomenclature and the technical aspects of pharmacy and chemistry. The Laboratory cooperated closely with the Committee on Publications of the Council in the publication of both "New and Nonofficial Remedies" and the separate volume "Tests and Standards for New and Nonofficial Remedies."

THE COSMETIC PROGRAM

Cooperation with the Committee on Cosmetics in its program of cosmetic acceptance has continued as in past years. Twenty-eight products have been considered from the chemical view. Comments concerning control procedures have been forwarded to the Committee. Opinions concerning the actions and claims made for the preparations have been referred to the Committee for whatever action it deemed advisable.

COOPERATION WITH OTHER DEPARTMENTS OF THE ASSOCIATION

The Chemical Laboratory has had occasion during the past year to examine products at the request of the Bureau of Investigation, the Council on Foods and Nutrition, and the Advertising Committee. It has continued to help the Editorial Department in regard to chemical and technical statements which appear in articles for publication in THE JOURNAL. It has assisted the Library in the classification of chemical and technical nomenclature for the Quarterly Cumulative Index Medicus. It has advised the Advertising Committee at its request concerning technical statements on advertising copy and on occasion has examined products on its behalf.

SPECIAL PROBLEMS

The Laboratory is continuing its study of cigarettes, cigarette smoke, and filters which was initiated at the request of the Advertising Committee. Two articles were published in THE JOURNAL during the past year, one on filter-tip cigarettes and the other on low-nicotine content cigarettes. Work continued in attempting to improve analytical methods and techniques concerned with the chemical problems of products under consideration in the Laboratory.

The Laboratory has answered many letters of inquiry from the medical profession concerning those technical matters which the Laboratory's personnel is qualified to consider and in several instances has contributed to Queries and Minor Notes. It has reviewed for THE JOURNAL about 25 books during the past year mostly of a chemical nature but in most instances bearing on the field of medicine.

MICROBIOLOGIC SECTION

Since its inception in 1950, the Microbiologic Laboratory has continued to enlarge its activities with a view to a comprehensive program of microbiologic tests and standards.

The Laboratory has examined approximately 130 products submitted for inclusion in New and Nonofficial Remedies. Sterility tests were conducted on samples of these products in accordance with the methods prescribed by the U. S. Pharmacopeia XIV and by the U. S. Food and Drug Administration, as well as by other methods especially applicable to the substances under consideration. In addition, procedures for the determination of antibacterial activity were employed in those instances where such claims were made by the manufacturer. A program for testing the potency of those antibiotics not certified by the Food and Drug Administration is now under way.

Special problems submitted by other departments of the Association have also been investigated in the Laboratory. These include bacteriological examination of food products, evaluation of laboratory equipment, determination of the efficacy of devices used in hospital sterilization procedures, and classification of streptococci. The Microbiologic Laboratory has served the Council on Pharmacy and Chemistry in the preparation of reports for the Council Bulletin, and in the revision of sections in "New and Nonofficial Remedies." Numerous inquiries on bacteriological problems from physicians and the lay public have also been answered. In addition, assistance has been given to various departments and Councils of the Association in evaluating microbiological data submitted in connection with advertising and presentations of products. As in the past, publications in the field of microbiology have been reviewed for the Library.

The Microbiologic Laboratory has as one of its functions the examination and evaluation of sterilization procedures submitted in presentations of pharmaceutical products for Council acceptance. The evaluation of so-called marginal methods of sterilization employed for heat-labile products is a problem which has been of particular concern, since at present there are no adequate test procedures available. A program for formulating such test methods has been initiated. A tentative guide for the determination of the adequacy of "marginal" processings has been drafted and distributed to manufacturers, official agencies, and other interested parties. It is recognized that, in order to arrive at a test procedure which will be bacteriologically sound as well as practical for the manufacturer, further revision of the tentative guide is necessary. To this end, the Laboratory held a conference in August during the convention of the Society of American Bacteriologists in San Francisco. Representatives of the pharmaceutical and canning industries as well as authorities from various academic institutions participated in this meeting. The criticisms and suggestions offered will form the basis for further investigative work.

Report of Council on Physical Medicine and Rehabilitation

PUBLICATIONS

The Council published the following articles in THE JOURNAL: "Power Output of Diathermy Apparatus," "An Appreciation" in which the Council expressed its appreciation to consultants who had contributed their services, "Calculators for Applying the Ogino-Knaus Theory," the "Miracle Hearing Aid," and "Minimal Requirements for Acceptable Speech Audiometers." In addition, a pocket-sized instruction card entitled "Artificial Respiration" was printed and widely distributed. The 1953 edition of "Apparatus Accepted by the Council on Physical Medicine and Rehabilitation" is scheduled for release in October.

COUNCIL ADVISORY COMMITTEES

American Health Resorts.—The Advisory Committee on American Health Resorts has continued its consideration of those institutions requesting listing by the Council. During the course of the year, one American health resort center was visited by a member of the Advisory Committee and the secretary of the Council to discuss problems related to providing adequate medical supervision.

Audiometers and Hearing Aids.—The Advisory Committee on Audiometers and Hearing Aids held its annual meeting in August, and representatives of manufacturers of hearing aids and audiometers also attended a portion of this meeting. A representative of one of the manufacturers of transistors, now being used in hearing aids, presented a technical discussion on their manufacture and application. The Committee reviewed the progress of its Subcommittee, which is formulating a revision in the procedure for evaluating the percentage loss of hearing. This activity has been carried over from the previous year, and because of the many technical questions that have arisen in connection with this problem, continued study will be necessary before a satisfactory revision can be formulated. Twelve hearing aids and three audiometers were submitted to the Council for acceptance during the year.

Education.—Because the fostering of the proper use of various apparatus and methods in medicine that had a physical basis for their action necessitated educational activities directed toward physicians and lay therapists, the Council established a Committee on Education in 1925. The Council has continued its interest in physical therapy education, particularly since 1929 when the American Physiotherapy Association requested the Council to inspect, evaluate, and accept schools of physical therapy. Although the Council declined in 1929 to undertake the inspection and acceptance of schools of physical therapy, it did work with the Council on Medical Education and Hospitals and other interested parties to the end that in 1936 the Council on Medical Education and Hospitals assumed this activity, published essentials for the acceptance of such technical schools, and initiated an approval program.

The Council on Physical Medicine and Rehabilitation, with the aid of its Advisory Committee on Education, has thus continued its interest in education of physical therapists and occupational therapists and has continued, at the request of the Council on Medical Education and Hospitals, to consult with that Council regarding course requirements for the training of such personnel. The Council submitted a proposed revision of the Essentials of an Acceptable School of Physical Therapy to the Council on Medical Education and Hospitals during the year.

Electrocardiographs.—Two electrocardiograph devices were submitted to the Council for acceptance. The Committee has continued its consideration of minimal requirements for the acceptance of vectorcardiograph apparatus.

Ophthalmic Devices.—The Advisory Committee on Ophthalmic Devices has assisted the Council in the consideration of two such apparatuses submitted during the year, and has advised the Council regarding various special ophthalmic devices which do not come within the purview of the acceptance program but which are advertised in American Medical Association publications.

Respirators.—The Advisory Committee on Respirators has assisted in the consideration of various respiratory devices submitted to the Council. It has advised the Council in relation to manual artificial respiration methods, and members of the Advisory Committee have participated in the Council exhibit on that subject, which has appeared at a number of medical meetings throughout the country during the year.

Sterility and Fertility.—An article on "Calculators for Applying the Ogino-Knaus Theory" was promulgated by this Advisory Committee, accepted by the Council, and published in THE JOURNAL this year. Another article pointing out the dangers inherent in the use of certain types of stem pessaries was also prepared under the auspices of this Advisory Committee and recommended to the Council for acceptance and publication.

Ionizing Radiations.—The Council and its Advisory Committee on Ionizing Radiations has been concerned over the potential hazards involved in the use of x-ray apparatus in the fitting of shoes. The Committee is attempting to collect data in order to compile and publish a report on this subject.

Physical Laboratory

Most of the work of the Physical Laboratory has come under the following headings: (1) preliminary physical description of all apparatus submitted by manufacturers for consideration by the Council; (2) more detailed examination of the construction and physical performance of particular types of submitted apparatus; and (3) inspection of some kinds of apparatus that do not come within the purview of the Council but require critical appraisal for the purposes of other councils or committees. The first category of 20 items included apparatus like audiometers that must be sent on to other more specialized laboratories. The second category of 71 items reflected especially the current interest in generators for stimulating muscles and nerves and apparatus for applying shocks to the asystolic or fibrillating heart. The third category of 6 items ranged from microscopes to pasteurizers.

The laboratory staff has begun the statistical study of certain audiometric data needed in the revision of the American Medical Association method of scoring impairment of hearing. The laboratory has also proved useful in preparing scientific exhibits such as that on medical uses of the transistor and radioactive materials.

Other Activities

Because of certain information regarding gas pressures which should be available in resuscitators, the Council again reviewed its minimal requirements for the acceptance of resuscitators and inhalators, with physicians and other scientists in the field, as well as the manufacturers of such devices.

The introduction of ultrasonic generators for use in therapy has been noted by the Council. One such device has been submitted to the Council for consideration for acceptance. The Council is currently collecting data in order to compile a statement for publication on this physical agent.

Approximately 68 pieces of apparatus were submitted to the Council in 1953 for consideration for acceptance. Thirty pieces of apparatus were reported on in THE JOURNAL as accepted.

Report of Council on Foods and Nutrition

The Council on Foods and Nutrition, now completing its 24th year as an integral part of the American Medical Association, has continued to play an important role in shaping progressive policies in food and allied industries and in publishing sound nutritional information for both the physician and the layman. The seal of the Council appearing on special purpose foods and in advertising is mute testimony to the fact that such foods and advertising have been critically examined by the Council; that the Council has been apprised of the manufacturing process employed; that the Council considers the food to be wholesome and useful for its stated purpose; and that claims made are in keeping with the latest scientific evidence or the best available scientific opinion.

Food Acceptance and Advertising

The vastly increased interest in foods prepared for use in diets of restricted sodium content has occupied a large portion of the Council's time. Many brands of vegetables packed without added salt have been submitted to the Council and accepted. Certain vegetables having a relatively high natural sodium content were deemed to be unsuitable for use in sodium-restricted diets even though no salt was used in processing them. Because of the meager information available concerning the natural sodium content of vegetables, the Council has secured the cooperation of the packers concerned in making an extended study of the variations to be expected in sodium content. The accumulation of such data will enable the products to be labeled accurately so that the physician will be able to incorporate them with confidence in the diets of his patients requiring a restricted sodium intake. The production of foods for use in sodium-restricted diets presents some problems that have yet to be solved. For instance, the removal of most of the sodium from milk also results in significant reductions in the amounts of various other essential nutrients present in milk. Such a product can no longer be called milk, and the Council is justifiably concerned with its labeling and advertising.

The publicity given to the prevalence of overweight in the country has resulted in an overwhelming interest on the part of the public and the food processors in foods specifically designed for use in calorie-restricted and carbohydrate-restricted diets, particularly those containing non-nutritive artificial sweetening agents. Because of the great number of proposed uses for artificial sweeteners in processed foods, a special meeting was held on April 9, 1953, at which members of the industry presented their views to the Council and a group of consultants. After due deliberation, the Council decided to include within its acceptance program artificially sweetened canned fruits and certain other artificially sweetened foods. The Council will not consider a product for acceptance merely because it happens to contain an artificial sweetener instead of sugar. The product must have nutritional merit and be useful. Also the Council emphasized the fact that artificially sweetened foods are for use only in special diets and should not be used indiscriminately.

The acceptability of foods containing sorbitol and mannitol for use in calorie-restricted and carbohydrate-restricted diets is still under consideration, but as of this date no sound nutritional reason is seen for the incorporation of these substances in such foods.

The Council continued to examine for acceptance new submissions of strained and chopped infant foods and other eligible special purpose foods, as well as vitamin D fortified milks from dairies all over the country. Advertising copy for accepted products and educational advertising continued to be critically examined. Apparently educational advertising is being used more and more extensively as various food processors and trade organizations are discovering its effectiveness. The Council's well known prestige in the field of nutrition has resulted in excellent cooperation from all parties concerned—manufacturers, distributors, and trade organizations, and their advertising agencies.

COUNCIL REPORTS

The Council requested several authorities in the field of nutrition to write articles on certain aspects which it was felt were of popular interest to both the physician and his patients. These articles were all reviewed by the Council and are being published in THE JOURNAL as Reports to the Council.

Four articles already published and the issue of THE JOURNAL in which they appeared are as follows: "Physical Medicine and Obesity," Jan. 24, 1953; "Nutrition of Athletes," March 7, 1953; "Disaster Feeding," April 18, 1953; and "Trends and Needs in Nutrition," May 2, 1953. Three additional articles that have been reviewed by the Council are scheduled for publication in THE JOURNAL at an early date. One is entitled, "The Story of Kwashiorkor"; another, "Trace Elements in Brucellosis"; and the third, "The Psychiatric Aspects of Obesity."

GOLDBERGER AWARD

Dr. William H. Sebrell, director of the National Institutes of Health, received the third Joseph Goldberger Award in Clinical Nutrition at a dinner of the Council in December, 1952. This award is presented annually on recommendation from the Council for outstanding and sustained work in the field of clinical nutrition. It consists of a gold medal and $1,000 made possible by a grant from the Nutrition Foundation. Dr. Sebrell's exceptional work in the field of riboflavin deficiency and pellagra prevention with Dr. Goldberger, along with his long-continued work in clinical nutrition, was the basis for his selection for the award.

The recipient of this year's Goldberger Award has not yet been chosen. However, it is hoped that the award will be presented at either the December, 1953, Clinical Meeting of the American Medical Association in St. Louis or at the San Francisco meeting in June, 1954.

OTHER COUNCIL ACTIVITIES

The Council's attention was called earlier this year to a group of infants with convulsions all of whom had been fed a liquid S.M.A. formula from birth or at a very early age. In most of the cases the convulsions appeared in infants under the age of six months. Cessation of convulsions tended to follow a change to standard milk formulas. All reported cases occurred after there had been a change in the fat composition of the product. The precise explanation of the difficulty has not been determined as of the date of the writing of this report. However, the product in question was voluntarily and completely removed from the market. It is regretable that this was not brought to the attention of the Council earlier, and it is hoped that physicians will report to the Council at once any suspicious or unusual reactions to any food product.

In cooperation with the Bureau of Health Education the Council office supplied source material and reviewed the script for a transcription on the history, development, and benefits of vitamin D milk. This was a part of a series of transcriptions entitled, "Yours for Health." The role of the Council in the early recognition and encouragement of the use of such a product is brought out. The almost complete eradication of rickets today is due in no small part to the widespread use of vitamin D milk. If present precautions were to be discontinued, rickets would again become prevalent within a very few months.

In the interest of developing sound eating habits in infants and children, the Council issued a statement declaring that prepared cereals intended for use in infant feeding would not be eligible for acceptance if they contained more than 5% added sugar. This statement will be published in THE JOURNAL in the near future. The Council is quite concerned about the increasingly greater use of sugar in foods prepared for infants and children and is watching the matter very closely.

COOPERATION

The Council office continues to answer hundreds of inquiries dealing with foods and nutrition from physicians, laymen, and various agencies and other organizations. The Council and the Council office has been requested to review many articles on nutrition written for popular consumption in order to check them for accuracy. Even though the Council is not able to do as much of this as it would like, it feels that every effort should be made to counteract the misrepresentations and half-truths about foods and nutrition appearing in some of the popular press. The prestige of the Council in this field and of the Association can do much to encourage the dissemination of truthful nutrition information.

The Council and the Food and Nutrition Board of the National Research Council have adopted a joint statement on the addition of specific nutrients to foods. This statement emphasizes the desirability of meeting the nutritional needs of the people by the use of natural foods as far as is practicable. However, it endorses the principle of adding specific nutrients to certain staple foods for the purpose of correcting deficiencies in the general diet and in maintaining good nutrition of the people as a whole. The following additions are recognized as being in the interest of the public health: enrichment of flour, bread, corn, and rice, and addition of vitamin D to milk, vitamin A to table fats, and iodine to table salt. No other fortifications or enrichments are considered to be necessary at the present time.

ORGANIZATION

The Council was saddened by the sudden death of its Chairman, Dr. Philip C. Jeans, on Oct. 22, 1952, while he was in Panama on an assignment for the World Health Organization. A tribute to him, expressing the sentiment of the entire Council was published in the March 14, 1953, issue of THE JOURNAL. Dr. Howard B. Lewis, who succeeded Dr. Jeans as Chairman, was unable to continue as an active member because of a serious illness necessitating his hospitalization for an indefinite length of time. Dr. James S. McLester, often called the dean of American medical nutritionists, tendered his resignation to the Council at its last meeting. It was regretfully accepted; however, he remains an active consultant of the Council. Dr. Grace A. Goldsmith of New Orleans was selected to complete Dr. Jeans' unexpired term on the Council. Two new members will be chosen shortly to fill vacancies created by illness and retirement. Dr. Charles Davidson of Boston is at present Chairman of the Council.

As usual, the services of the Council members were greatly in demand, both in this country and abroad. The Secretary attended a meeting of the National Food and Nutrition Institute in Washington, D. C., in December, 1952, and served as chairman of one of the three sessions. He also represented the Association on the Department of Agriculture's Food and Nutrition Advisory Committee, which serves as an advisory group to the department on research in the field of food and nutrition as related to the human welfare.

APPRECIATION

The Council wishes to express its appreciation for the cooperation and assistance of the Board of Trustees and the various departments at Association headquarters and to the many experts it has had occasion to consult during the past year.

Report of the Bureau of Investigation

The year that ended Aug. 31, 1953, was an interesting and busy one for the staff of the Bureau of Investigation. The primary function of the Bureau as an agency for the collection and dissemination of reliable information on quacks, cultists, faddists, "patent medicine" sellers, and others engaged in pseudomedicine has continued to be the answering of individual inquiries on individual subjects. No less important, however, were radio and television appearances, lectures before church and civic groups, and exhibits, which were all utilized as an effective means to spread the message of the Bureau in its fight against quackery.

This year there was widespread interest in an alleged injection treatment for cataract. Investigation into the background of the principal promoter and a considerable effort at cooperation with interested ophthalmologic groups made this single subject perhaps the most important one of the rather wide variety of subjects dealt with in the day-to-day business of the Bureau. That such cooperation resulted in a thorough exposure of the essential quackery engaged in by the principal was effectively brought out in a special report in THE JOURNAL by the Committee on Ophthalmology of the National Research Council on June 20, 1953. The principal promoter was, on last information, incarcerated in a state institution awaiting a hearing for alleged violation of the terms of his parole from a sentence involving the forging of narcotic prescriptions. In the category of "eye cures," more than 250 inquiries were received. Of these, the great majority were from physicians and patients wanting competent information on the fish lens protein treatment, because it appeared to be a most welcome relief from the prospect of major eye surgery.

The category that stands first in the volume of current inquiries, however, is that of cancer treatments. In the past year approximately 650 inquiries were received and handled on this subject alone. One of those persons who claim to have drug treatments for internal and external cancer suffered a major legal setback at the hands of a federal Circuit Court of Appeals at New Orleans. The court ruled that a trial judge had erred in permitting testimonial-givers to testify as to the nature of their disease and its alleged cure by a layman in Texas and ordered the judge to issue a decree of injunction in favor of the government under the Food, Drug and Cosmetic Act. The Koch treatment is, however, the major single item inquired about. This nostrum, which has been relabeled since the passage of the Durham-Humphrey Amendment to the Federal Food, Drug and Cosmetic Act in 1952, is still enjoying a considerable vogue among certain classes of people. It ("Glyoxylide") is now labeled as containing one part active ingredient to a trillion parts of distilled water. Only recently a federal court in Detroit upheld a cease and desist order issued by the Federal Trade Commission requiring William F. Koch, his brother, and his laboratory to cease advertising that their preparations have any therapeutic merit whatsoever. Nonetheless, the successor, an organization of ministers, continues to peddle the material, and another minister, a publisher and radio broadcaster, advertises this and other so-called cancer cures as regular features of his monthly magazine, "The Defender." A newcomer on the cancer scene, having a South American origin and a Chicago promotion, has had the benefit of considerable local newspaper publicity by reason of the inquiries of a legislative committee that held hearings in Chicago during the past spring.

Other subjects that had wide interest as far as inquiries go were the highly advertised reducing preparations and devices, and the advertising institutes, particularly those in western Missouri. Another advertiser, a Denver chiropractor, continued, by reason of his national advertising activities, to elicit inquiries from those less credulous. He recently invoked the technique, so popular recently, of having an alleged Congressional investigation by a solitary senator of a "plot" by the medical profession to keep disabled veterans from having the benefit of "free" chiropractic care.

Vitamin and mineral preparations continue to have widespread interest. In this field new products have appeared that are advertised to the lay public as a means whereby those who are underweight may become well-rounded and muscular. Of course, many such preparations are sold to the same public with slight variation to the effect that they are easy, drugless methods of losing weight!

Next in order of volume of inquiries were the devices sold for a variety of purposes. These include the mechanical massagers, the machines for diagnosing and treating disease as imitations of the "electronic reactions" of Abrams, and those that are sold for the purpose of erasing away excess fat. It may be of particular interest to note that there were only a dozen inquiries on "diabetes cures." Once this category was a major item in point of number of letters received. These, however, must be marketed in a rather circumspect manner because of the great risk of scrutiny by governmental regulatory agencies in the "patent medicine" field.

The Bureau, in cooperation with the Bureau of Exhibits, showed the Mechanical Quackery exhibit at the annual meeting of the Medical Society of Virginia at Richmond and at the Federation of Women's Clubs in Washington, D. C. Valuable assistance was rendered here by the personnel of the Public Relations Department. This exhibit was also shown at the annual meeting of the Student A. M. A. in Chicago. A new exhibit entitled "Fooling the Fat," which contrasts advertising claims for reducing pills, powders, and "plans" with the item actually purchased, was shown at the Clinical Meeting in Denver, at the Chicago Dental Society Midwinter Meeting, and at the Summer Conference of Indiana Farm Women at Purdue University, Lafayette, Ind.

The Director participated in radio programs in Denver and in Lafayette, Ind. Television programs were participated in at Chicago and Minneapolis, the latter under the auspices of the Minnesota State Medical Association. The director also gave talks before several organizations, including the Summer Conference of Farm Women at Purdue, Ind., the Annual Short Course on School and Community Health at Indiana University, the Stritch Chapter of the Student A. M. A. at Stritch School of Medicine, Chicago, the Hennepin County Medical Society at Minneapolis, the Woman's Auxiliary of the American Society of Clinical Pathologists, and the Council and House of Delegates of the Arkansas Medical Society at Little Rock. Talks were also given before service clubs, church organizations, and high school classes.

The Bureau exchanges information with government agencies, better business bureaus, radio and television broadcasting firms, newspapers, and magazine writers. It also serves as a clearinghouse of information for state and local medical societies, state medical boards, and health departments. The Bureau maintains files on and publishes occasional reports on medical impostors in THE JOURNAL.

Conclusion

The board will submit a supplementary report at the opening session of the House of Delegates covering a few items on which complete information is not as yet available.

Respectfully submitted,

DWIGHT H. MURRAY, *Chairman.*
GUNNAR GUNDERSEN, *Vice Chairman.*
EDWIN S. HAMILTON, *Secretary.*
DAVID B. ALLMAN.
F. J. L. BLASINGAME.
LEONARD W. LARSON.
THOMAS P. MURDOCK.
JAMES R. MCVAY.
JULIAN P. PRICE.
EDWARD J. MCCORMICK.
WALTER B. MARTIN.

REPORT OF THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

To the Members of the House of Delegates of the American Medical Association:

This report covers the period from Oct. 1, 1952, to Sept. 30, 1953.

The major concerns of the Council on Medical Education and Hospitals during the past year have been with matters referred to it by the House of Delegates, postgraduate medical education, foreign medical schools, the first World Conference on Medical Education, the survey of medical education, and the financial needs of the medical schools.

The Council has continued the many programs it conducts that are aimed at contributing to and stimulating the improvement of medical education at all levels. These programs include the accrediting of educational programs in nine major fields, the compilation and dissemination of information and statistics concerning medical education and related activities, and conferring, consulting, and collaborating with a large group of agencies, institutions, and organizations that have an interest in medical education.

Matters Referred to the Council by the House of Delegates

At its December, 1952, meeting, the House of Delegates requested the Council to define the distinction between graduate and postgraduate education. In response to this request the Council has prepared the following definitions:

Graduate Medical Education consists of those programs pursued by persons possessing the degree of Doctor of Medicine which are primarily designed to *prepare them for entrance into a specific field of medicine.* Such programs include all specialty training as well as academic work in the clinical and basic medical sciences and may lead to board certification or an advanced academic degree. Graduate programs are usually conducted on a full-time basis over a period of from one to several academic years. They are generally of a formal nature as residencies, fellowships, preceptorships, or intramural academic work and are generally conducted by medical schools, hospitals, or graduate medical schools.

Postgraduate Medical Education consists of those educational activities engaged in by persons possessing the degree of Doctor of Medicine which are primarily designed to *keep them abreast of their own particular field in medicine.* Such activities are intended both to refresh the person in various aspects of his medical education and inform him of the new developments within his field and do not lead to any formal advanced standing in the profession. Postgraduate programs may be on a full-time or part-time basis but are usually of relatively short duration, i. e., days to months. The organization of these programs may be formal or informal, more often the latter. They are conducted in a great variety of forms using many methods and techniques. They are sponsored by a diverse group of institutions, schools, and organizations. Postgraduate programs may also include special training in very narrow fields of medicine, such as subspecialties and new areas of study, as well as short basic science courses.

At the June, 1952, meeting, the House of Delegates instructed the Council to undertake an immediate restudy and reevaluation of the policy of establishing residencies and internships for the purpose of correcting the gross imbalance between the large number of established residencies and internships and the small number of physicians available to fill them. At the same meeting the House of Delegates requested the Council to give careful study and consideration as to what rearrangements, if any, can be made in the length of certain residency programs in the interest of public welfare. At the December, 1952, meeting, the House of Delegates referred to the Council a resolution from the Section on General Practice requesting that until the residency training program in general practice has been properly augmented there be fewer approvals of specialty residency programs in any hospitals except those fully associated with medical schools.

Since all of these resolutions bore directly on the Council's activities in the field of approving hospitals for internship and residency training, the Council appointed a special subcommittee to review carefully the current policies of the Council with respect to standards for approved programs and the Council's practices with respect to the evaluation of individual hospitals seeking approval for internship and residency training. The following sections of the report of the subcommittee, which are particularly pertinent to the resolutions referred to above, may be quoted:

It was the consensus of the committee that a restudy and re-evaluation of the policies relating to internships had been accomplished through the completion of the study made by the Advisory Committee on Internships and the adoption of the revised Essentials of an Approved Internship.

It was the consensus of the committee that the restudy and re-evaluation of policies relating to residency training were being and would be constantly evaluated by the conference committees and residency review committees which had been and are being established in collaboration with the Boards and Colleges.

The committee was of the opinion that the length and content of approved training programs in a specialty are being recurringly evaluated by the appropriate conference committee or residency review committee and further that the classifying of approved services in terms of number of years is necessary in order to provide accurate information for the resident in planning his training program.

The establishment of general practice residencies during the past two to three years, from the committee's point of view, provides adequate opportunity for graduates seeking advanced training before going into general practice. It was noted that last year approximately 40 per cent of these residencies were filled. There would not appear, therefore, to be any immediate need for the establishment of additional residencies of this type. It was recognized that many graduates intending to enter general practice take residency training in internal medicine, obstetrics-gynecology, pediatrics or surgery after completing their internship. The number of residents in general practice residencies, therefore, is not an accurate indication of the number of graduates planning to become family physicians. While the committee was of the opinion that the development of well organized programs preparing a graduate for general practice should be encouraged, it did not believe that the number of residencies in the specialties could be restricted on this basis.

The subcommittee was asked by the Council to determine whether any special studies over and above those now being carried out should be instituted. The committee was of the opinion that through the activities of the conference and review committees which have been established by the Council in the various specialties in which residency training is offered, the major problems relating to residency training were being subjected to continuous scrutiny. After reviewing the subcommittee's report, the Council was agreed that it would not be advisable to initiate any additional studies of residency training at this time since an effective mechanism now exists for resolving such general and special problems related to residency training as may be referred to the Council.

At the June, 1953, meeting the House of Delegates voted to abolish the rule (in the revised Essentials of an Approved Internship approved by the House of Delegates in December, 1952) whereby approval may be withdrawn from an internship program which for two consecutive years fails to obtain at least two-thirds of its stated complement of interns. The Council has taken appropriate note of this action of the House of Delegates.

At the June, 1953, meeting, the House of Delegates also voted that a further study of the internship be continued by a committee appointed by the Speaker of the House of Delegates, at least half of the members of which were to be doctors in private practice not connected with medical schools or affiliated hospitals. The Council will be pleased to be of assistance to this committee in any way that it can.

At the June, 1953, meeting, the House of Delegates approved a resolution condemning the interference of teaching institutions with the operation of the National Intern Matching Plan and asked for a restudy of the problem so that a more equitable allocation of interns may be achieved. The American Medical Association's representatives to the corporation known as the National Intern Matching Program, Inc., were instructed to request that corporation to restudy the problem and implement its improvement. This action of the House of Delegates will be transmitted to the Directors of the National Intern Matching Program at their next meeting with a request that appropriate action be taken.

National Commission on Accrediting

For the past several years the National Commission on Accrediting, an organization formed by seven major associations of colleges and universities, has been making a study of the activities of accrediting agencies. This commission was formed because of the concern of colleges and universities over the multiplicity of accrediting agencies whose standards they had to meet and because of the concern of colleges and universities that they were surrendering control of their educational programs and policies to the accrediting agencies. The commission at one time gave consideration to a proposal that the accrediting activities of all professional agencies such as the Council on Medical Education and Hospitals be abolished and that the accrediting of institutions of higher learning should be the responsibility of the six major regional accrediting associations in the United States.

For many reasons which are beyond the scope of this report to review, the Council on Medical Education and Hospitals believed that this would be a backward step as far as medical education was concerned. The Council vigorously presented its point of view through correspondence and in conference with representatives of the National Commission on Accrediting during the past year. It is with satisfaction that we report that while the National Commission on Accrediting has recommended to its member universities and colleges that they no longer deal with professional accrediting agencies in many fields, they have formally recognized that the Council on Medical Education and Hospitals and its collaborator, the Association of American Medical Colleges, are the agencies best fitted to establish standards and accredit programs in the field of medicine.

The National Commission on Accrediting has suggested that the Council and the Association of American Medical Colleges give serious consideration to coordinating their activities as far as possible with those of the regional accrediting associations. The Council and the Association of American Medical Colleges have made it clear that they intend to maintain their current independent programs but that they will be glad to explore fully the possibility of coordinating visits to medical schools as far as is practical with visits to their parent universities by the regional accrediting associations.

At the moment plans are being made for a pilot endeavor of this type with the Middle States Association of Colleges and Secondary Schools. This experiment will be studied very carefully to determine just how far it is desirable for the Council and the Association of American Medical Colleges to proceed in this direction.

First World Conference on Medical Education

Five members of the Council and its staff attended and took an active part in the first World Conference on Medical Education held in London under the auspices of the World Medical Association during the last week of August, 1953. The conference was acclaimed as an outstanding success by all who attended it. It is hoped that similar opportunities for stimulating exchanges of views and experiences by medical educators and physicians from all parts of the world can be arranged at appropriate intervals. The World Medical Association is deserving of the highest commendation for undertaking this important program which should lead to improving medical education throughout the world.

Foreign Medical Schools

The problem of evaluating the education and preparation of physicians who attended foreign medical schools remains an important one for licensing boards, hospitals, and other groups and organizations in the United States. The preliminary list of foreign medical schools issued in 1950 by the Council, which has subsequently been revised three times, is proving to be of increasing value.

Several groups and individuals have proposed on a number of occasions in recent years that the Council should expand its staffs so as to be in a position to make detailed surveys of medical schools in other countries comparable to the surveys regularly made of American and Canadian medical schools. While the Council has this matter under serious consideration, the situation is obviously such a complex and involved one that the Council is not prepared at this time to determine how far it should develop this program.

Following the World Conference on Medical Education in London, three representatives of the Council at the invitation of the schools concerned made a detailed visit to the medical schools of one European country. At the time this report is being written, it is too early to predict whether this experience will give indication as to the desirability or feasibility of the Council's attempting to make direct investigations of other foreign medical schools.

The Council has just completed a new booklet of information for the guidance of foreign-trained physicians coming to the United States and of Americans who are considering studying medicine abroad. This booklet, which brings together basic facts and information, should be helpful to the two groups mentioned in evaluating their status and opportunities for medical practice in the United States.

Survey of Medical Education

The final report of the Survey of Medical Education sponsored by the Council and the Association of American Medical Colleges appeared in book form during the summer of 1953. The report is entitled "Medical Schools in the United States at Mid-Century" and was prepared by Dr. John E. Deitrick, director of the survey, and Dr. Robert C. Berson, associate director. It is published by McGraw-Hill Book Co., New York. All physicians interested in medical education are urged to read the report. A comprehensive review of the report appeared in the 1953 Educational Number of THE JOURNAL, Sept. 12, 1953.

Financial Needs of Medical Schools

During the past year the Council has continued to collaborate closely with the American Medical Education Foundation and the National Fund for Medical Education in their efforts to secure additional financial support for the medical schools. As this report is being written, the Council and the Association of American Medical Colleges are initiating a joint study of the current needs of the medical schools. This study, which will be completed late in 1953 or early in 1954, should provide valuable, up-to-date information on which to base accurate estimates of the over-all needs of the medical schools. It is believed that this information will be of material assistance to the American Medical Education Foundation and the National Fund in presenting the needs of the medical schools to the medical profession, business, industry, and the public generally.

Postgraduate Medical Education

During the past year a member of the Council's staff has completed an intensive nationwide study of the activities of medical societies, medical schools, hospitals, health departments, and other organizations in the field of postgraduate medical education for the purpose of determining the major trends and problems in this field. A detailed report of this study is now being completed and should be ready for publication early in 1954.

The Council intends to study this report carefully to determine the type of future program it should sponsor for the stimulation and improvement of postgraduate education. Postgraduate education is assuming a position of increasing importance to the medical profession, and the Council believes that, as a result of the study just completed, it will be in a better position to assist in the further development of postgraduate medical education than it has been previously.

Division of Hospitals and Graduate Education

In August of this year a Division of Hospitals and Graduate Education was established as a section of the Council's staff. The director of this division, Dr. Edward H. Leveroos, is responsible for the administration of the Council's internship and residency approval programs and its activities in the field of hospital accreditation. Approval by the Board of Trustees of the establishment of this division is evidence of the increasing importance which graduate education has assumed in present day medical education and of the Council's interest in maintaining a position of leadership in this field.

The responsibilities of the division include consultations, both direct and through correspondence with members of hospital staffs and administrators initiating or conducting internship or residency programs, evaluation of applications for approval of these programs, organization of the Council's field inspection service, liaison with the individual American Boards in the medical specialties as well as with the Advisory Board for Medical Specialties, participation in the organization and conduct of the program for internship appointments as sponsored by the National Internship Matching Plan, Inc., liaison with the offices of the Surgeons General of the medical departments of the federal services, development of standards for approval of graduate training programs, and the compilation of data for publication in the Annual Report and the Directory of Approved Internships and Residencies. Within the past year there has been an increasing volume of correspondence from graduates of foreign medical schools seeking internship and residency appointments to hospitals in this country. Every effort has been made to assist these physicians to obtain positions in hospitals desiring their services.

During the past year the field staff of the Council was increased to nine full-time physicians, each of whom has responsibility for the inspection of hospitals in an assigned territory. Approximately 50% of the time of these staff representatives is spent in conducting surveys for the Joint Commission on Accreditation of Hospitals, the rest being devoted to an evaluation of internship and residency programs. Dr. Arthur Springall, who served for a time as a member of the field staff, has recently been made responsible for the supervision of the Council's internship approval program under the direction of Dr. Leveroos.

A summary of the activities of the field staff in visiting hospitals throughout the country during the past year is presented in tabular form in this report. Under present arrangements with the Joint Commission, the Council's representatives conduct the survey work for accreditation of those hospitals approved by the Council for internship or residency training. On completion of this basic survey, the internship and residency programs for which the hospital is approved are reviewed and evaluated. For the reporting period, 677 hospitals were visited, with 350 internship programs and 1,702 residency programs examined. In addition, since Jan. 1, 1953, 290 surveys for accreditation were made in behalf of the Joint Commission. Each member of the field staff has from 150 to 160 hospitals for which he is responsible. The inspection program is set up on a two year basis so that each field representative will visit from 75 to 80 hospitals annually. The staff has been untiring in its efforts to complete assignments on schedule, year after year. Without the basic contributions which these physicians make to the Council's program, it would be impossible to carry it out successfully.

One of the special issues of The Journal is the Internship and Residency Number, in which the Council's Annual Report on graduate education and lists of approved services is published. This year, the report indicated that there were 1,313 hospitals in the United States and its possessions approved for internship or residency, or both. In these hospitals, there was a total of 7,645 interns and 16,867 residents on duty as of Sept. 1, 1952. Included in the total number of interns assigned, were an estimated 1,300 to 1,400 graduates of foreign medical schools. According to the report, 72% of internships were filled last year. This was the same percentage of positions occupied as for the year previous. The number of internships vacant has also remained relatively constant for the past two years, with about 3,000 positions reported unfilled. The residency occupancy rate for the years 1951-1952 and 1952-1953 remained at 76%, although the number of residents actually assigned increased from 15,851 reported a year ago to 16,867 this year. The Council points out in the report that the problem of house staff shortages now involves interns and residents to almost the same extent and that any consideration of the problem should be in terms of both internships and residencies rather than viewing the intern shortage or residency shortage as separate situations.

Another publication for which the Division of Hospitals and Graduate Education is responsible is the Residency Information Bulletin, published quarterly. The bulletin gives current information on available residency appointments in Council-approved hospitals. Prior to publication, all hospitals are circularized relative to residency vacancies. This information is forwarded without charge to any physician interested in applying for an appointment. The bulletin is also distributed to approximately 250 military posts, camps, and stations, where it is made available to medical officers about to be released from service who may be interested in residency training. Approximately 1,500 copies of each issue are furnished on request as a service to physicians, hospitals, medical schools, and a number of federal and nonfederal organizations.

During the past year, the Council has worked closely with 18 of the 19 existing American boards in the approval of residency programs. In the single specialty not represented, ophthalmology, the American Board of Ophthalmology accepts training in any Council-approved hospital but does not wish to participate in the evaluation of residency programs. The Council is currently engaged in discussions with a number of the boards to the end of developing a more direct collaboration between the Council and these boards. It is anticipated that by Jan. 1, 1954, joint committees will be established with representatives from both organizations in at least nine specialties. These committees will evaluate residency programs in the specialty concerned and will act in an advisory capacity in the development of training standards. Joint committees of this type have been in operation for a number of years in internal medicine (Residency Review Committee in Medicine), and in general surgery (Conference Committee on Graduate Training in Surgery). In these two specialties, the "American Colleges" are represented on the committee as well as the Council and the Board, i. e., the American College of Physicians on the former committee, and the American College of Surgeons on the latter. All administrative work relating to the activities of these committees as well as the actual inspection of hospitals is carried out through the Division of Hospitals and Graduate Education of the Council. The Council wishes to express its sincere appreciation for the valued cooperation of the boards and colleges in this work. Without the combined efforts of all of these organizations, the present approval program for graduate education could not be so effectively conducted.

In the Council's report last year, mention was made of the fact that representatives of the American Board of Anesthesiology had met with the Council in an attempt to resolve certain problems which had arisen relative to the approval of residency programs in this specialty. Conferences with representatives from this board have continued during the past year.

Advisory Committee on Internships

In its report to the House of Delegates last year, the Council noted that the Advisory Committee on Internships would complete its 15 month investigation and study of the internship prior to the first of the year. The Report of the Advisory Committee, summarizing its views on the form and content of the internship and the manner in which it should be conducted, was referred to the House at the Denver meeting along with the revised Essentials of an Approved Internship, which were adopted at that meeting, with an amendment to the latter approved by the House in June. Both the report and the essentials were published in The Journal and copies distributed to all hospitals approved for intern training. That these two documents will serve as a frame of reference for any future evaluation of the internship is evident. In its report, the committee stressed the fact that the internship is undergoing major changes and urged that the Council "continue its policy of holding the place of the internship (in present-day medical education) under close scrutiny." The Council considers the report in general, and this recommendation in particular, as eminently sound and wishes to commend the committee for the important contribution it has made to medical education.

National Intern Matching Plan

The Matching Plan, first introduced in 1950, will again be the official method for appointing interns for the coming year. The Council has actively supported this plan since its inception through representation on the operating committee and on the executive committee of the corporation. Other organizations sponsoring the plan include the American Hospital Association, the Catholic Hospital Association, the Protestant Hospital Association, the Association of American Medical Colleges, with liaison members from the medical departments of the federal services. This year for the first time, there is direct student representation on the operating committee with one member from the Student American Medical Association and one member at large. The Matching Plan completed its second successful year of operation last year with 843 hospitals and 6,033 students participating. Over 80% of the applicants received appointments to hospitals first in their preference lists; an additional 10% were appointed to their second choice hospitals, with the remaining 10% placed in hospitals the applicant had rated third or lower, or not matched.

There is apparently still some misunderstanding as to the purpose of the plan. It does not purport to "distribute" interns.

A hospital participating in the plan may or may not obtain its requested number of interns, depending on the number of applicants who signify their desire to accept appointment at that hospital and who are not matched with another hospital higher in their preference rating. The primary purpose of the plan is to give effect to the student's expressed choice of the hospital at which he desires to intern and the hospital's preference of persons applying to it. The plan in no way interferes with the student's free selection of the hospital of his choice. It does have the effect of relieving undue pressure on the student in making that choice. Neither does the plan interfere with proper negotiations between hospital and applicant. It assures the hospital of the appointment of those interns who have applied to it and who have given the hospital high enough preference in their confidential list. The Council is of the opinion that the Matching Plan as presently conducted affords the best available method for the appointment of interns in an orderly and equitable manner and as such warrants the support of the medical staffs of all hospitals in which intern training is being conducted.

Joint Commission on Accreditation of Hospitals

As pointed out, the Council staff has been conducting surveys for the Joint Commission since Jan. 1, 1953. In general, the field staff of the Council visits those hospitals approved for intern or residency training, conducting a combined survey of the hospital from the standpoint of the Joint Commission's program and the Council's approval for intern or residency training. It should be noted that accreditation by the Joint Commission, while a prerequisite for approval by the Council, does not involve evaluation of the hospital from the standpoint of its educational program. This function is the responsibility of the Council on Medical Education and Hospitals collaborating, in the case of residencies, with the American boards and the American College of Physicians and the American College of Surgeons. Participation in the Joint Commission's program has enabled the Council's representative to obtain a comprehensive view of the hospital which is of distinct value in considering its teaching potential. An excellent rapport has been developed between the offices of the Joint Commission and the Division of Hospitals and Graduate Education, which has been most helpful in resolving problems in which the Council and the commission have been interested. The Council has appreciated the assistance and support it has received from this organization and looks forward to a continuance of the friendly cooperation which has existed since the Commission was activated.

Approved Examining Boards

There have been no new examining boards approved since 1951. By action of the Council and the Advisory Board for Medical Specialties at their meetings in February, 1953, however, the American Board of Preventive Medicine was authorized to certify candidates in two fields, public health, as had been done since establishment of the board, and aviation medicine. Training standards in the latter subspecialty are currently being developed. As yet, there have been no candidates certified in aviation medicine. It is anticipated, however, that a founder member group will have been established in the near future. At present, there are 19 examining boards approved by the Council and the Advisory Board for Medical Specialties, including 11 in the surgical specialties, 6 in the medical specialties, and 2 in the clinical-laboratory field.

Activities of the Section on Hospital Service and Technical Schools

The Section on Hospital Service and Technical Schools of the Division of Hospitals and Graduate Education deals with the registration of hospitals and the approval of schools for medical technologists, x-ray technicians, occupational therapists, physical therapists, medical record librarians, and medical record technicians. These activities are carried out in accordance with standards adopted by the House of Delegates and involve the cooperation of county medical societies in the evaluation of hospital applications and the assistance of national technical associations in the study and organization of training programs relating to technical personnel. Other functions include the collection and compilation of statistical data, the preparation of lists of acceptable hospitals and technical schools, and the publication of an annual report on Hospital Service in the United States. From Oct. 1, 1952, to Sept. 30, 1953, the number of hospitals registered by the American Medical Association increased from 6,717 to 6,769. In this period 288 new registrations took place whereas 236 hospitals were closed or transferred to the unclassified file. The respective county medical societies, as well as district councilors, gave valuable assistance in the evaluation of hospital applications and in many instances submitted their recommendations on the basis of personal visits of inspection. In addition, 30 hospitals were inspected for registration by members of the Council's staff. The 1952 hospital report published in THE JOURNAL, May 9, 1953, listed 6,665 registered hospitals with a total of 1,541,615 beds and 93,749 bassinets.

In the technical fields the Council lists 551 approved schools in medical technology, 328 for x-ray technicians, 37 schools of physical therapy, 27 schools of occupational therapy, and 24 schools for medical record librarians. This represents in the last year a net gain of 46 schools in medical technology, 13 in x-ray technique, 6 in physical therapy, and 2 in the area of medical record library science. In this connection, it should be noted that when the Council's standardization program began in 1936 the approved schools of medical technology totaled 96, the training programs in physical therapy 13, and the occupational therapy schools 5. Similarly, in 1943 the acceptable courses for medical record librarians numbered only 10, while in 1945 the initial list of x-ray schools represented a total of 112. There has likewise been a general increase in technical personnel from year to year, with the schools of medical technology listing 2,063 graduates in 1952, the x-ray programs 1,156, physical therapy 582, occupational therapy 441, and the medical record schools 92. It is evident, however, that the present production rate is not sufficient to meet existing demands, as critical shortages are still continuing in many areas. This need is receiving full consideration by the Council and the respective professional and technical organizations, and every effort is being made to stimulate recruitment and the establishment of additional schools, particularly in areas where training facilities have not yet been fully developed.

Recognizing that the present one year training program for medical record librarians, based on two years of college or graduation from an accredited school of nursing, cannot alone supply the required personnel in this field, the American Association of Medical Record Librarians has requested that a supplemental nine months' course be established for high school graduates. Standards for this type of training, presented to the House of Delegates last June under the title "Essentials for the Training of Medical Record Librarians," were given temporary approval with the understanding that they be resubmitted to the House for further consideration and final action at the December, 1953, session. These "Essentials" were printed in THE JOURNAL, June 27, 1953, page 830. Final approval by the House is formally requested at this time. Interest in this program is developing rapidly as many institutions are seeking additional information and fifteen have already requested application forms.

The needs in medical technology are now being investigated by a study committee of the American Society of Clinical Pathologists, whose Board of Schools of Medical Technology has, in the last year, completed a survey of the approved laboratory schools. The board is continuing to assist the Council in the evaluation of new applications and has cooperated in the revision of the "Essentials of an Acceptable School of Medical Technology," appended to this report and submitted for final approval by the House. Changes in the training requirements in physical therapy are likewise under consideration, and the Council is also continuing to evaluate the educational programs in occupational therapy. Surveys of the approved schools of x-ray technique have previously been completed with the full cooperation of the American College of Radiology.

Acknowledgment is also made at this time of the excellent cooperation received from the Council on Physical Medicine and Rehabilitation, the American Occupational Therapy Association, the American Physical Therapy Association, and the American Association of Medical Record Librarians.

Annual Congress on Medical Education and Licensure

The 49th Annual Congress on Medical Education and Licensure, sponsored by the Council on Medical Education and Hospitals and the Federation of State Licensing Boards, was held in Chicago Feb. 8 to 10, 1953. The attendance was the largest ever recorded and numbered over 550. Featured on the program were panel discussions of the new experimental program of medical education at Western Reserve and the Report of the Council's Advisory Committee on Internships. Many other interesting and timely topics were presented in the form of papers and discussions. The next Congress will be held Feb. 7 to 9, 1954, in Chicago, and all physicians interested in medical education are invited to attend.

Collaboration with Other Agencies

The Council has continued to collaborate as it has from the beginning of its work with other organizations and agencies that have active interests in one or more phases of medical education. Because of the importance of maintaining close cooperation among these various groups, efforts to promote collaboration have become one of the most significant parts of the Council's program in terms of time, energy, and importance. As in previous years, the close relations that the Council enjoys through regularly constituted liaison committees with the Association of American Medical Colleges and the Advisory Board for Medical Specialties have been particularly beneficial. Of increasing importance are the recently established conference committees on graduate training with the American College of Surgeons and the American College of Physicians.

Conjoint activities with these and other organizations have been varied in nature and have involved members of the Council, the Secretary, the Director of the Division of Hospitals and Graduate Education, and other members of the staff. These cooperative enterprises have included consultations, participation in conferences, meetings, and the work of advisory committees in joint sessions and studies. A partial list of the agencies and organizations with which the Council has collaborated during the year include:

Advisory Board for Medical Specialties
Alpha Omega Alpha Honorary Fraternity
American Academy of General Practice
American Association of Medical Record Librarians
American College of Physicians
American College of Radiology
American College of Surgeons
American Congress of Physical Medicine
American Dental Association
American Hospital Association
American Medical Education Foundation
American Nurses Association
American Occupational Therapy Association
American Pharmaceutical Association
American Physical Therapy Association
American Public Health Association
American Registry of Physical Therapists
American Registry of X-Ray Technicians
American Society of Clinical Pathologists
American Society of X-Ray Technicians
American Veterinary Medical Association
Association of American Medical Clinics
Association of American Medical Colleges
Association of Canadian Medical Colleges
Board of Registry of Medical Technologists
Boards of Schools of Medical Technology
Canadian Medical Association
Catholic Hospital Association
College of American Pathologists
County Medical Societies
Federal Civil Defense Administration
Federation of State Medical Boards of the United States
Health Resources Advisory Committee, Office of Defense Mobilization
House of Representatives Armed Services Committee
Institute of Inter-American Affairs
Institute of International Education
Joint Committee on Medical Education in Time of National Emergency
National Board of Medical Examiners
National Fund for Medical Education
National Internship Matching Program, Inc.
National Committee for Resettlement of Foreign Physicians
Office of Defense
Pan American Sanitary Bureau
Public Health Service
Selective Service System
Senate Armed Service Committee
Southern Regional Education Board
State Department
State Licensing Boards
State Medical Associations
Student American Medical Association
Survey of Medical Education
United States Air Force
United States Army
United States Navy
United States Office of Education
Veterans Administration
Western Regional Education Board
World Medical Association

Medical Schools Visited

During the year Oct. 1, 1952, to Sept. 30, 1953, the following medical schools were visited for consultations, inspection or other purposes: University of British Columbia School of Medicine, University of Colorado School of Medicine, University of Washington School of Medicine, University of Oregon School of Medicine, University of Utah School of Medicine, Stritch School of Medicine, Wayne University College of Medicine, University of Miami School of Medicine, University of Puerto Rico School of Medicine, Medical College of Alabama, Chicago Medical School, New York Medical College, Flower and Fifth Avenue Hospitals, State University of New York College of Medicine at New York City, Medical College of Virginia, University of Ottawa Faculty of Medicine, University of Saskatchewan Faculty of Medicine, and the University of Western Ontario Faculty of Medicine.

Inspection of Hospitals and Technical Schools

Inspection of hospitals and technical schools made by the Council during the year Oct. 1, 1952, to Sept. 30, 1953, are summarized as follows:

Registration	30
Accreditation (Joint Commission)	290
Intern training	74
Residency training	282
Intern and residency training	276
Technical schools	15
Total	967
Intern programs reviewed	312
Residency training programs reviewed	1,702
Total	2,014

Summary of Hospitals and Technical Schools

Figures for approved hospitals and technical schools with changes occurring during the year Oct. 1, 1952, to Sept. 30, 1953, are as follows:

Registration of Hospitals	
Hospitals registered, Oct. 1, 1952	6,717
New institutions registered to Sept. 30, 1953	288
Closed or transferred to unclassified file	236
Hospitals registered Sept. 30, 1953	6,769
Internship Approval	
Hospitals approved for intern training, Oct. 1, 1952	872
Approved to Sept. 30, 1953	14
Removed from approved list	23
Hospitals approved for intern training, Sept. 30, 1953	863
Residency Approval	
Hospitals approved for residency training, Oct. 1, 1952	1,161
Approved to September 30, 1953	33
Removed from approved list	18
Hospitals approved for residency training Sept. 30, 1953	1,176
Residency Training Programs	
Programs approved for residency training, Oct. 1, 1952	4,656
Approved to Sept. 30, 1953	196
Removed from approved list	100
Programs approved for residency training, Oct. 1, 1953	4,752
Medical Technology Schools	
Approved schools, Oct. 1, 1952	505
Approved during year	57
Removed from approved list	11
Approved schools, Sept. 30, 1953	551
Medical Record Librarian Schools	
Approved schools, Oct. 1, 1952	22
Approved during year	2
Removed from approved list	0
Approved schools, Sept. 30, 1953	24
Occupational Therapy Schools	
Approved schools, Oct. 1, 1952	27
Approved during year	0
Removed during year	0
Approved schools, Sept. 30, 1953	27

Physical Therapy Schools	
Approved schools, Oct. 1, 1952	31
Approved during year	6
Removed from approved list	0
Approved schools, Sept. 30, 1953	37
X-Ray Schools	
Approved schools, Oct. 1, 1952	315
Approved during year	17
Removed from approved list	4
Approved schools, Sept. 30, 1953	328

Council Publications

During the period Oct. 1, 1952, to Sept. 30, 1953, the Council was responsible for preparing material for six numbers of THE JOURNAL:

Postgraduate and Continuation Courses for Physicians	Dec. 13
Hospital Service in the United States	May 9
Medical Licensure Statistics	May 30
Postgraduate and Continuation Courses for Physicians	June 12
Medical Education in the United States	Sept. 12
Internship and Residency Number	Sept. 26

Other regular publications of the Council included:

Proceedings of the 1953 Annual Congress on Medical Education and Licensure
Choice of a Medical School. (Prepared for the guidance of prospective medical students)
Approved Colleges of Arts and Sciences
Foreign Medical Schools
Reciprocity and Endorsement Policies in Medical Licensure
Status of Requirements for Medical Licensure for Foreign Trained Physicians
Federation Bulletin (a monthly bulletin established by and published for the Federation of State Medical Boards of the United States)
Residency Information Service (a list of current vacancies in residency positions)
Schools for Medical Technologists
Schools for Physical Therapists
Schools for Occupational Therapists
Schools for Medical Record Librarians
Schools for X-Ray Technicians

The Council also has reprinted for distribution a number of articles dealing with questions relating to the Council's work and responsibilities including a weekly listing in THE JOURNAL of coming examination and reciprocity meetings of state licensing boards, basic science boards, and examining boards in the medical specialties. In addition, the Council has published numerous statements in THE JOURNAL from time to time concerning current actions of the Council.

Changes in Headquarters Staff

The Council is happy to announce the appointment of Dr. Edward L. Turner, Dean of the University of Washington School of Medicine since 1946, as Secretary of the Council to succeed Dr. Donald G. Anderson, who resigned the Secretaryship on Oct. 1, 1953, to become dean of the University of Rochester School of Medicine and Dentistry.

The Council regrets the resignation of Dr. Francis R. Manlove, who has been Associate Secretary of the Council since 1950. Dr. Manlove resigned to accept appointment as director of the Medical Center and dean of the department of medicine at the University of Colorado. Dr. Manlove has been a valued member of the Council's staff, and he has the best wishes of the Council in his important new work.

Memorial to Dr. Reginald Fitz and Dr. Frank H. Lahey

The Council was grieved during the past year by the deaths of two former distinguished members, Drs. Reginald Fitz and Frank H. Lahey. Dr. Fitz, who demonstrated his great capacities for leadership in many fields of medical education, served as an active member of the Council for 21 years beginning in 1928. He will long be remembered for the kindly wisdom that he brought to the deliberations of the Council and for his untiring and energetic participation in the work of many of the Council's most important subcommittees. Dr. Lahey, one of the great leaders of American medicine of modern times, served as a member of the Council from 1938 to 1940. When Dr. Lahey left the Council to assume the office of President-Elect of the American Medical Association, he continued to demonstrate his interest in medical education and the problems of the Council. As evidence of this, during the months immediately preceding his death, Dr. Lahey had made many special trips to a number of cities throughout the nation to speak on behalf of the important work of the National Fund for Medical Education, of which he was one of the original trustees. Medical education has lost two splendid friends and vigorous workers in the passing of these great leaders.

Appreciation

It is a pleasure for the Council to express its appreciation for the fine cooperation it has received from many organizations, institutions, and individuals in carrying out its various programs. The Council wishes to make special mention of the support and encouragement it traditionally receives from the officers, Board of Trustees, and members of the House of Delegates of the American Medical Association. Without this support and encouragement, the Council could make little progress in its effort to discharge the responsibilities that it carries on behalf of American medicine in the important field of medical education and hospital affairs.

This report was prepared by Dr. Donald G. Anderson.

Respectfully submitted,

H. G. WEISKOTTEN, Chairman.
GUY A. CALDWELL.
JOHN W. CLINE.
JAMES M. FAULKNER.
VICTOR JOHNSON.
LELAND S. MCKITTRICK.
FRANKLIN D. MURPHY.
W. L. PRESSLY.
CHARLES T. STONE.
HARVEY B. STONE.
EDWARD L. TURNER, Secretary.

APPENDIX

Essentials of an Acceptable School of Medical Technology, Revised to December, 1953

PREAMBLE

Two organizations are primarily concerned with the training of medical technologists, the Council on Medical Education and Hospitals of the American Medical Association and the American Society of Clinical Pathologists. Two Boards of the American Society of Clinical Pathologists represent this Society. The Board of Schools of Medical Technology is primarily concerned with the evaluation and inspection of schools of medical technology, acting in an advisory capacity to the Council, assisting also in the maintenance of high standards of education and in the development of new schools of medical technology. The Board of Registry of Medical Technologists investigates and certifies the competency of the technologists.

The Council, with the cooperation of the Board of Schools of Medical Technology and the Board of Registry of Medical Technologists, has established the following standards for this type of training for the information of schools, physicians, hospitals, prospective students, and others and for the protection of the public.

Technologists are being trained in these schools to work under the direction of qualified physicians and not as independent practitioners.

I. ADMINISTRATION

1. Acceptable schools for training medical technologists may be conducted by approved medical schools, hospitals, or other acceptable laboratories suitably organized in accordance with present educational standards.

2. All training of technologists shall be under competent medical control.

3. Resources for continued operation of the school should be insured through regular budgets, gifts, or endowment, but not entirely through students' fees. Experience has shown that commercial schools operated for profit frequently do not adhere to proper ethical and educational standards and therefore are not acceptable.

II. ORGANIZATION

4. Adequate space, light, and modern equipment should be provided in the laboratory department. A library containing up-to-date references, texts, and scientific periodicals pertaining to clinical laboratory work and pathology should be maintained, or be readily accessible to the institution.

5. Satisfactory record systems should be provided for all work carried on in the department. Monthly and annual classifications of the work of the department should be prepared.

6. Transcripts of high school and college credits and other credentials must be available. To insure appropriate subsequent registration it is essential that evaluation of entrance credits be obtained from the Board of Registry of Medical Technologists. An acceptable school keeps records of each student's attendance and grades and it is also recommended that the number and type of tests performed be recorded. In addition, the school has a synopsis of the complete curriculum on file, a copy of which is submitted to the Council on Medical Education and Hospitals. This curriculum should include the rotation of assignments, the outline of instruction supplied by the laboratory and a list of the prepared specimens which are used to augment the experience of the student.

7. At least two or more students should be enrolled in each class.

III. Faculty

8. The school should have a competent teaching staff. The director must be a graduate in medicine who is certified in clinical pathology by the American Board of Pathology or who has had training and experience in clinical pathology acceptable to the Council. He shall take part in and be responsible for the actual conduct of the training course. He shall be in daily attendance for sufficient time to supervise properly the laboratory work and teaching.

9. In laboratory practice the enrollment may not exceed two students to each member of the teaching staff. The staff *must* include not less than one instructor whose duties include supervising the teaching program and who is a registered medical technologist (ASCP) or eligible for registration. This is in addition to the laboratory director. In order to be considered as an instructor, a technologist should have had three years of experience while members of the hospital staff or visiting instructors must have regular assignments that cover a complete course prescribed in these Essentials.

IV. Prerequisites for Admission

10. Admission requirements are as follows:

Two years, 90 quarter hours or 60 semester hours, of college work in a college or university accredited by a recognized standardizing association. During the two years the following courses must be taken: (1) Eighteen quarter hours or 12 semester hours of biology which may include general biology, bacteriology, parasitology, physiology, anatomy, histology, embryology, and zoology; (2) Nine quarter hours or 6 semester hours of inorganic chemistry, including lectures and laboratory, and 4 quarter hours or 3 semester hours of either quantitative analysis, organic chemistry or biochemistry, including lectures and laboratory (quantitative analysis is especially recommended); (3) Electives, including English, general mathematics, physics and typing.

V. Curriculum

11. The course of training should be not less than twelve months in duration and should include the following subjects: biochemistry, hematology, bacteriology, parasitology, tissue technique, serology, urinalysis, basal metabolism, electrocardiography, and miscellaneous clinical microscopy.

12. The instruction should follow a planned outline similar to "A Curriculum for Schools of Medical Technology" of the Board of Registry of Medical Technologists and should be accomplished by text assignments, lectures and discussions, demonstrations, supervised practice, quizzes and written, oral and practical examinations.

VI. Clinical Material

13. Each student should receive practice training, adequate in kind and amount, under competent supervision. Participating hospitals should be registered and be otherwise acceptable to the Council on Medical Education and Hospitals of the American Medical Association. Approved schools should have available laboratory material equivalent to that provided by a hospital of 100 beds and 3,000 yearly admissions and a minimum of 35,000 tests a year with a distribution of clinical material sufficient to provide adequate technical training in the various laboratory divisions.

VII. Ethics

14. Excessive fees and commercial advertising should be considered unethical.

15. Schools conducted primarily for the purpose of substituting students for paid technologists will not be considered for approval.

VIII. Health

16. Applicants shall be required to submit evidence of good health and successful vaccination, and a report of a medical examination should be a part of the students' records. This examination shall include a roentgen examination of the chest. Provisions should be made for medical care and hospitalization, when necessary, for a reasonable length of time.

IX. Admission to the Approved List

17. Application for approval of a school for the training of technologists should be made to the Council on Medical Education and Hospitals of the American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois. Forms will be supplied for this purpose on request and should be completed by the director of the laboratory requesting this approval. Inquiries regarding the registration of qualified medical technologists should be addressed to the Board of Registry of Medical Technologists, Post Office Box 1209, Muncie, Ind.

18. Approval may be withdrawn whenever in the opinion of the Council a school does not maintain an educational service in accordance with the above standards. Whenever a training program has not been in operation for a period of two consecutive years, approval may also be withdrawn.

19. Approved Schools should notify the Council on Medical Education and Hospitals whenever a change occurs in the directorship of the school.

REPORT OF THE COUNCIL ON MEDICAL SERVICE

To the Members of the House of Delegates of the American Medical Association:

Progress in Medical Service

Marked progress in the field of medical service for the American people during 1953 is herewith reported by the Council on Medical Service. The Council, working through its seven committees, has conducted numerous studies, surveys, and field trips which point out these advances. In the reports that follow, the Council presents a brief review of some of the specific medical care problems with which it has been concerned. Each of these has its place in a pattern which the Council and its committees are molding into a plan for medical service that can be used as a guide for state and county medical society activities. It will be noted that, in some fields, the Council can give only information; in other areas guides are beginning to develop, and plans are being formulated for medical service programs.

The final solution of some of these problems is not simple. Many are controversial, and because of this the correct procedure in resolving them is in some instances difficult to determine. Despite these difficulties, the following facts from the various reports are highlighted to show continued development in medical service to the public:

Voluntary Insurance.—A total of 91,667,000 Americans were protected against the cost of hospital care at the end of 1952. This represents a 7% increase over 1951. More than 73,161,000 were insured against the costs of surgical expense, a 12% increase during the year. Medical expense protection was enjoyed by 35,797,000, a 29% increase over 1951, and 689,000 persons are now protected by "catastrophic" insurance, a relatively new form of coverage.

Physicians Placement Service.—Another medical service goal is being approached when 43 states can now be reported as having some form of placement service. This is a substantial increase over the 37 states with such programs in 1952.

Indigent Care Programs.—An ever-increasing interest among medical societies in the organization and administration of indigent medical care plans has developed during the past year. Ten articles in regard to various local plans and programs have appeared in The Journal; four more are now ready for publication. A specific step forward in this field are the "Guides for Evaluating Indigent Medical Care Plans," which appear in this report.

Federal Medical Services.—Meetings and regional conferences dealing with veteran medical services are bringing out many facts and figures which will enable the profession to develop plans whereby those veterans with active service-connected disabilities will receive improved total medical care.

Maternal and Child Care.—Surveys conducted in this field are bringing forth much definitive information which would indicate that the best method for assuring medical and hospital care for dependents of servicemen is coordination of existing services and facilities at local levels rather than a national EMIC-type program.

Studies in Prepayment.—Studies are being conducted to obtain physician reaction as to ways and means of improving health insurance plans.

Emergency Call Systems.—Growth in the number of plans continues at a rapid pace and has increased more than tenfold since 1948, at which time 60 plans were reported compared to the 660 plans reported at present.

Grievance Committees.—Some 600 medical societies now have grievance committees; of the larger societies 83% have such committees. A goal of the Council was reached last year when each state society and the Medical Society of the District of Columbia had established grievance committees. The Council hopes that the same 100% goal may be reached by the larger county and city societies within the coming year.

Community Medical Service Programs.—Special surveys on county society medical service activities show an increase all along the line in community medical service programs.

The aim of the Council is to provide ways and means for the state and county societies to supply the best medical service possible to the American public.

Extension of Hospitals and Other Facilities

The Committee on Extension of Hospitals and Other Facilities has had several changes in personnel this yast year. Dr. W. G. Phippen, Salem, Mass., resigned because of ill health. New members appointed were Drs. Cleon A. Nafe, Indianapolis, and Willard A. Wright, Williston, N. D. Others on the Committee are Drs. Ralph A. Johnson, chairman, Detroit; Elmer Hess, Erie, Pa.; Walter E. Vest, Huntington, W. Va.; E. Dwight Barnett, New York, and John W. Cline, San Francisco.

Physician-Hospital Relations

The committee has received few reports of controversies or dissatisfaction concerning physician-hospital relations. This would seem to indicate that such matters are being resolved locally or that the problem itself has diminished. In connection with this it should be noted that a recent survey of 927 component societies shows that only 309 have hospital relations committees, compared to 479 with grievance committees and 432 with emergency call plans. This may indicate a lack of interest in such a committee, or it may mean that many societies see no need for physician-hospital relations committees. In either event unless the situation changes, no special effort will be made to encourage the creation of such additional committees.

Reprints have been made of the Report of the Joint Committee on Hospital-Physician Relationships, adopted by the House of Delegates in June, 1953. The Council has assumed that the report of the Joint Committee is a supplement to the guides adopted in December, 1951, entitled "Relation of Physicians and Hospitals."

Physicians Placement Service

Physicians placement activities by state associations and by the American Medical Association have increased during 1953. States have been encouraged to improve the data on openings, to expand their contacts with sources of physicians, and to work more closely with communities needing a physician. The committee, in turn, has for the first time sought to publicize the services offered to physicians and communities by the American Medical Association and has developed a periodic reporting system for checking on both openings and requests for placements.

Two regional conferences were scheduled during the year. The first was held in Memphis, Tenn., in March, with eight states represented, and the second in Asheville, N. C., in September, with seven states represented. These were working conferences designed to interest the state associations in improving their placement operations and to learn how the American Medical Association placement service might be of most assistance to the states. Both conferences were successful and have already resulted in the organization of placement programs in several states and an increased emphasis on placement operations and problems in a number of others. The committee believes that such regional meetings will also result in a better understanding as to the relationship between the state and American Medical Association placement activities. However, many states still lag in interest and in the operational aspects necessary to an adequate placement program, and the committee will continue with these conferences as suggested in the Mississippi Resolution adopted by the House of Delegates in June. In addition to the regional meetings, the committee has discussed physicians placement service on the programs of the North Central Medical Conference in St. Paul and the Council of New England State Medical Societies in Boston.

During the past two summers the Council has employed medical students to assist in field work relative to physician placement. Last summer visits were made to Virginia, Indiana, Ohio, Missouri, Nebraska, and Tennessee. This summer a Northwestern University Medical School student was assigned to this project and visited the states of Illinois, Michigan, Montana, Mississippi, Texas, and South Carolina. Descriptions of placement operations in six states have appeared in The Journal, and at least four additional descriptions are scheduled for publication in The Journal this fall.

The field work undertaken by the committee resulted in the conclusion that the following were needed: (1) A descriptive pamphlet designed to assist communities in attracting a physician; (2) a method by which communities could be evaluated or rated in reference to need, to attractiveness, and to ability to support a physician would be necessary to estimate accurately the progress in improving physician distribution; (3) specific suggestions for placement program operations must be developed and made to states which do not have adequate programs; and (4) a descriptive pamphlet designed to assist physicians seeking a location in which to practice. The committee has completed the first two of these and is working on the other two.

A pamphlet entitled "A Doctor For Your Community" has been prepared jointly by the Council on Medical Service, Council on Rural Health, and Department of Public Relations. This pamphlet is designed to assist communities seeking a physician and to stimulate the thinking and activities of community leaders into channels which will yield the best results. Copies have been sent to members of the House of Delegates for their perusal. It has been exceedingly well received by state association placement services, deans of medical schools, state medical examining boards, and others interested in physicians placement problems. The committee believes that this pamphlet directed toward the community seeking a physician deals with but one-half of the problem, and that a similar pamphlet directed toward the physician who is looking for a place to practice is a necessary next step. Such a pamphlet is planned for early spring.

A Medical Priority Rating Program has been prepared and submitted to the state medical associations with full knowledge of the many differences between states. However, the criteria on which a physician bases his appraisal of the desirability and medical need of a community are sufficiently uniform to permit their adaptation to any state. In such adaptation the points assigned to items may be increased or decreased to conform to local conditions without altering the basic concept. Encouraging the state associations to use this program in the operation of their placement services is admittedly an experimental step. At the same time it may well serve several purposes: (1) to stimulate communities to analyze their characteristics and facilities from a physician's viewpoint; (2) to encourage state associations in the collection of a certain minimum amount of information on each opening; and (3) to supply the American Medical Association with a valuable differentiation among the communities in the United States listed as needing a physician.

A detailed description of the program was printed in The Journal, Sept. 19, 1953. Reprints are available in the Council office.

Follow-ups have been completed in the last several months on physicians seeking locations, communities and those in the miscellaneous group seeking a general practitioner, and those seeking the services of a specialist. Additional information has been obtained for all listings which previously gave only the name of a contact person. A revision of the assistant and associate listing has reduced that booklet from the cumbersome size to which it had grown to a size convenient to handle. As a result of these follows-ups the statistics on the Placement Service have been brought up to date as indicated in the following paragraphs.

From July, 1952, to July, 1953, the Placement Service has had 622 requests for information from physicians. Of this number, 68 visited the Council office. Most of the requests involved more than one state; therefore, the number of state listings sent in response to requests was much greater than 622. The six states in which physicians seem most interested in locating are Illinois, California, Colorado, New York, Washington, and Oregon. When the state about which information is requested maintains an active placement service, a copy of the questionnaire completed by the physician is sent to the state so that information may be sent directly from that office. In the specialty field the greatest number of requests were for internal medicine, pediatrics, and surgery.

A recent survey of physicians who have requested data on openings from this office shows that 552 physicians have located or taken additional residency or gone into service since July, 1952. Of those physicians who have been heard from in the recent follow-up, 103 physicians have indicated they would like to have their information sent directly to the community needing a physician. Of the 30 who do not wish their name sent out, 6 are still in the Armed Services. At the present time these names have not been sent to communities, but it is anticipated that this procedure will be used in the near future.

There are now 1,732 openings as compared with 2,000 in July, 1952; 119 places were closed as a result of the recent follow-up. Of the 1,732 openings, 1,355 are for general practitioners, 268 for specialists, and 109 miscellaneous (colleges, foreign, industrial, institutions, public health, temporary, U. S. Government, and Veterans Administration). During the period July, 1952, to July, 1953, the Council office received 329 requests directly from communities. When the state association has an active placement service, the request is forwarded to the state office, and the community is so notified. If the state association does not have an active service, the name of the community is placed in the current listing and sent out to all physicians indicating an interest in that state.

In continuing the work with the location on maps of places requesting general practitioners, the 1,355 openings can be classified by the following four population groups:

	1952	1953
Communities up to 1,000 population.............	984	764
Communities from 1,001 to 2,000 population......	248	264
Communities from 2,001 to 5,000 population......	155	165
Communities over 5,000 population..........	144	162

Roughly 75% of the general practitioner openings at present are in communities of 2,000 population or less. There is an approximate 25% decrease in requests from communities with a population of 1,000 or less. Some of these communities listed are of such size and location that they could not support a physician independently but need to share the services with other nearby communities. A medical priority rating would give concrete evidence to these communities as to why they should be dropped from the current listing.

A questionnaire similar to the one used in 1952 concerning state placement service activities was sent out in the late spring of this year. Below are listed the criteria agreed on as necessary for a state to have an active physicians placement service, with a tabulation of the 47 states replying:

	No. of states carrying on in 1952	No. of states carrying on in 1953
1. Maintenance of lists of openings for physicians with adequate data on each opening..	37	43
2. Study of openings and appraisals of need...	25	38
3. Maintenance of lists of physicians seeking locations and of interns and residents who may soon be seeking locations...........	30	40
4. Cooperation with medical schools and hospitals in an effort to interest students, interns, and residents in general practice, in communities needing physicians...........	18	34
5. Assisting communities in developing ways and means of attracting qualified physicians and educating small communities to the fact that they cannot support a physician and would be better off going to a nearby center for medical service......................	20	32
6. Supplying A. M. A. Placement Service with lists of openings either at regular intervals or as openings develop, whichever method the state wishes to follow.................	19	32

The number of states indicating that they supply the American Medical Association Placement Service with lists has increased. Though these states are sending additions to their lists, some fail to notify this office of communities that have obtained the needed medical service. For example, one state indicated that 50 communities listed with their service had been successful in securing the services of a physician during the past year. Yet the last listing received from that state was in May, 1952, with 34 openings. Only one state failed to return a questionnaire this year. One state answered only the first question. The figures in the above table indicate a substantial increase in the state activities. Further evidence is found in the more frequent revision of listings sent by most states and by carbons sent to the Council office of the information given to physicians requesting listings.

Hill-Burton Act

According to the Public Health Service report for fiscal year 1952, upon which the Council's last survey of Hill-Burton construction was based, there were 1,827 projects approved at that time. A year later, the report for fiscal year 1953 shows 2,104 projects approved, an increase of 277. The number of projects completed and in operation has increased from 950 to 1,229, about 58% of the total number approved. The only projects not in operation or under construction are 148 approved during fiscal year 1953. As a measure of the efficiency of the program, three projects approved in 1953 are already in operation and 82 are under construction.

Projects already in operation have added 49,275 hospital beds to the nation's total, while those under construction will add 44,731 more. In addition, 210 health centers have been completed and 99 are under construction.

Estimated cost of all projects approved thus far is $1,688,013,000, with the federal share set at $582,564,000, approximately one-third of the total. This federal expenditure includes 50 million dollars for the fiscal years 1954 and 1955, which had not been definitely allocated at the end of the fiscal year, since at that time congressional action on the program had not yet been completed.

The 83rd Congress extended the life of the act two years; however, the appropriation has been cut to 65 million dollars per year, instead of the 75 million dollars allotted in previous years. This amount is a compromise between the House bill, which would have cut the appropriation to 50 million dollars and the Senate bill, which would have allotted the full 75 million dollars.

Completed projects are located in all states and in the District of Columbia; projects have also been completed in Alaska, Hawaii, Puerto Rico, and the Virgin Islands. So far as can be determined, the program continues to operate fairly and with a minimum of federal interference.

Indigent Care

The personnel of the Committee on Indigent Care has remained the same this year and consists of Drs. H. B. Mulholland, chairman, Charlottesville, Va.; A. J. Bowles, Seattle, Wash.; E. P. Coleman, Canton, Ill.; John L. Lattimore, Topeka, Kan.; E. A. Ockuly, Toledo, Ohio; Dean W. Roberts, Baltimore, and Roscoe C. Webb, Minneapolis. Dr. Joseph H. Howard, Bridgeport, Conn., was a member of the committee until his death, Sept. 28, 1953.

Interest among medical societies in the organization and administration of indigent medical care plans has increased considerably since the committee began its studies two years ago. Articles have appeared in The Journal describing 10 of the studies made by the committee. They have been reprinted as they appeared, and copies have been made available to component medical societies and others interested in this particular subject.

During the summer the Council again assigned a medical student to this committee for field work. Studies were made of the state level organization of the programs in New York, Pennsylvania, and Massachusetts. In addition the committee supplied staff assistance in a statewide study of indigent care in Kentucky. A statistically selected group of 15 counties was visited and a report, containing recommendations for improvement, was made to the Indigent Care Committee of the Kentucky State Medical Association. Although this was a pilot project, it showed clearly a way in which state and American Medical Association committees and staff can work together to accomplish mutual aims. The committee contemplates continuing the studies and their publication in The Journal until it is satisfied that all varieties of organizational and administrative patterns in the field of indigent medical care have been explored.

In December, 1952, the Council submitted to the House of Delegates a set of "Guides for Evaluating Indigent Medical Care Plans." At the last moment, however, these were withdrawn for revision at the request of a joint committee of representatives of the Committee on Indigent Care and the Council on Medical Education and Hospitals. This joint committee has prepared a further draft which is resubmitted at this time. The committee recognizes that these guides may well undergo change on the basis of future experience and as between areas of the United States; however, it is believed they are basically sound and should be reviewed by the House of Delegates at this time.

GUIDES FOR EVALUATING INDIGENT MEDICAL CARE PLANS

These guides represent working data of the Committee on Indigent Care and are not statements of policy of the American Medical Association. They are presented with full recognition that every community will have local problems which may necessitate variations from the suggestions made here. Nevertheless, it is the opinion of the committee that a reasonable evaluation may well rest on the characteristics listed below.

To serve best its purpose an indigent medical care plan should:

1. Make provisions for those necessary services normally available locally to others:
2. Make equal services *and facilities* available to all indigent groups in any given local area;
3. Utilize existing facilities and avoid duplication wherever possible;
4. Wherever feasible, offer free choice of physician in home and office care so as to have continuity of medical supervision for each patient. A patient should have the opportunity to select a physician of his choice or, where available, a teaching facility (facility here refers to teaching hospitals approved by the Council on Medical Education and Hospitals for residency and/or internship or outpatient department of medical schools approved by the Council). Such facilities should accept only such load as is sufficient to meet their needs for clinical material;
5. Develop and use outpatient clinics not affiliated with teaching hospitals and medical schools only when mutually agreeable to the medical profession and the administrative agency involved. Participation in clinics established by agencies responsible for the care of the indigent, other than in hospitals and medical schools, should be open to all physicians in the community qualified to serve in the particular types of clinics;
6. Provide for medical supervision of all medical aspects;
7. Provide reasonable payment to physicians on a basis agreed to by the medical society. The organization of all programs and the method or methods of payment should be approved and reviewed at regular intervals by the local medical societies. Suggested are:
   a. Fee for service in the home, office, and hospital;
   b. Hourly payments in outpatient clinics;
   c. Where the services to an indigent patient are provided by a teaching facility, the teaching facility should be paid on the same basis as individual physicians. Funds so acquired should be used for the advancement of graduate training. If the facility is a teaching hospital organically affiliated with a medical school, such funds should be expended at the discretion of the medical faculty. If the facility is a hospital not organically affiliated with a medical school, such funds should be expended at the discretion of the medical staff of the teaching hospital.
8. Provide for local administration of the medical program for all indigent groups (such as Old Age Assistance, Aid to the Blind, Aid to Dependent Children, and General Welfare cases) by a single agency;
9. Provide for continuous liaison between medical society and administering agency;
10. Give additional consideration to:
    a. Special diagnostic aids.
    b. Preventive medical services.
    c. Health education.
    d. Rehabilitation.
    e. Home nursing as substitute for prolonged hospital care.
    f. Adequate social service coverage.

The principles embodied in these guides are neither new nor are they a departure from past practices; rather they emphasize medicine's continuing interest in the quality of service rendered to the indigent and medically indigent and in the quality of medical education. One of the hallmarks of American medicine has been the blend of services and teaching and this continues to be one of the Association's primary concerns.

TEACHING MATERIAL SURVEY

At the request of the Committee on Indigent Care the Council on Medical Education and Hospitals conducted a questionnaire survey early in 1953 to learn something of the relationship between indigent medical care and teaching material needed in the field of medical education. The decision to make the survey resulted from joint meetings between representatives of the Council on Medical Education and Hospitals and representatives of the Committee on Indigent Care. These meetings were called to discuss the possible effect on teaching programs of any widespread coverage of the indigent through voluntary health insurance plans. The representatives of both groups were concerned with the extension of voluntary health insurance to cover more and more of those persons who normally go to teaching hospitals for care but who, if given a free choice of hospital, might select a private nonteaching facility. This survey, participated in by 58 of the approved four-year medical schools, indicated that a shortage of clinical teaching material is not a pressing problem for most of the nation's medical schools. In general the majority of the schools have not suffered a reduction in the number of teaching beds nor do they seem to feel that any foreseeable reduction in the number of such beds will seriously impair the teaching program. In other words, the voluntary health insurance program with over 91 million persons carrying some sort of hospitalization insurance has not had an adverse effect on the teaching programs of medical schools. However, the indigent per se have not with the exception of a few areas been included in voluntary health insurance plans, and the question of the effect of any widespread inclusion of this group under voluntary health insurance still remains unanswered.

Copies of the report of the teaching material survey have been sent to the deans of the medical schools for their information, and the joint committee will continue to follow any developments and report them to the House.

Maternal and Child Care

The personnel of the Committee on Maternal and Child Care has changed somewhat during the year. Dr. W. F. Mengert, Dallas, Texas, resigned for health reasons and Dr. Stanley R. Truman, Oakland, Calif., resigned to serve on the Joint Commission on Accreditation of Hospitals. New members appointed during the year are Drs. Harold S. Morgan, Lincoln, Neb., and Philip S. Barba, Philadelphia. Other members at present are Drs. W. L. Crawford, Chairman, Rockford, Ill., H. B. Mulholland, Charlottesville, Va., Garland D. Murphy, El Dorado, Ark., and Donald A. Dukelow, Bureau of Health Education, American Medical Association, Consultant.

The committee completed its studies relative to maternal and child care for the dependents of servicemen early in 1953. As has been reported previously, these studies were made in Los Angeles by the Welfare Council of Metropolitan Los

Angeles. They have been reported on in THE JOURNAL in three separate articles (June 7, 1952, June 20, 1953, and Sept. 5, 1953). Two of these articles described the contents of the studies, and the third contains the recommendations of the committee which were made directly to "the Los Angeles County Medical Association, the Welfare Council of Metropolitan Los Angeles, and such other local agencies as are concerned with providing medical and hospital care to the wives and dependents of servicemen." The full statement concerning these recommendations is too long to be reproduced in this report. However, because of the recent report of the Citizen's Advisory Commission, appointed by the Secretary of Defense, which recommended that dependents of servicemen be provided with medical and hospital care at Federal expense, the House of Delegates should be aware of the fact that this Committee has gone to considerable lengths to inform itself on the subject of medical and hospital care for dependents of servicemen. At no time in this study has the Committee or the Council been convinced of any widespread need for a national program to provide medical and hospital care for this group. On the contrary, the only realistic approach to the problems encountered is, the Committee believes, through local physicians, local hospitals, and local agencies working jointly together to provide such care and services as are necessary. In its studies the committee assumed that "the dependents of our military men, particularly of those who are drafted into the service, constitute a group whose age, income, and frequently transient status are such as to warrant special consideration on the part of civilian agencies concerned with medical, hospital, and related services." And yet, in these studies, the committee found that the health problems of this group are often such that related services, such as counseling, day care, homemaking, and other similar services loom larger in importance than do physician and hospital services. In the solution to such problems, coordinated activity is far more necessary than the type of national program recommended by the Advisory Commission.

It is recommended to the House of Delegates that that portion of the report of the "Citizen's Advisory Commission on Medical Care for Dependents of Military Personnel" that has to do with maternal and child care be opposed and that the Department of Defense be made aware of the work and conclusions of this committee. In brief, the commission recommended that among other medical services, maternity and infant care should be provided to all dependents of servicemen as a matter of sound personnel policy. This care, wherever practicable, is to be provided in military medical facilities, although special arrangements are made for emergencies and dependents who live more than 25 miles from such military facility. The Commission's recommendations are such that the extent of coverage and the governing rules and regulations will result in a program much greater in scope and extent than the EMIC program of World War II.

It is requested that the House of Delegates urge the Los Angeles County Medical Society to make every effort to implement the recommendations which were made by the Committee.

Finally, it is urged that the House of Delegates commend these recommendations to all county medical societies so they may be used as guides whenever the need arises to take action regarding medical and hospital care for dependents of servicemen.

During the past several years, the Committee on Maternal and Child Care has concerned itself primarily with the problems of providing medical care to dependents of servicemen. Unless new circumstances require it, the committee will in the future devote itself to the general subject of maternal and child care. It has the opportunity to be one of the driving forces for further improvement in this field and anticipates functioning as a coordinator endeavoring to maintain liaison in the whole field of maternal and child health among the American Medical Association and other agencies concerned. It will seek to enlist the cooperation of all official and voluntary organizations working toward the same end. It will work with and through county medical societies to determine what communities are doing in this field and in the development of guides, standards, suggested programs, and other material which may be useful to the individual physicians, medical societies, and others interested in improving maternal and child care.

Medical Care for Industrial Workers

The Joint Committee on Medical Care for Industrial Workers of the Councils on Industrial Health and Medical Service has had only one change in personnel during the past year. Dr. Robert Homan, El Paso, Texas, has filled the vacancy created when James Q. Graves, Monroe, La., left the Council. Other members are Drs. W. A. Sawyer, chairman, Rochester, N. Y.; Warren F. Draper, Washington, D. C.; Edwin P. Jordan, Charlottesville, Va.; Raymond F. Frech, Newton, Iowa; Leo Price, New York; Clark Bailey, Harlan, Ky.; Frederick W. Slobe, Chicago; and consultants Fritjof Arestad, Donald A. Dukelow, and Carl Peterson, of Association headquarters.

The committee has continued to follow developments in regard to temporary cash sickness benefits legislation, not only in those states which have such legislation (Rhode Island, California, New Jersey, and New York) but also in other states as their legislatures have met. Since 44 state legislatures meet in the odd-numbered years, 1953 necessarily provides considerable data on this subject. Although no bills introducing a new program were passed during the year, the number and types of legislative proposals submitted indicate the continued persistence of the proponents of such programs. This persistence, however, was not as widespread as in 1951. In 1953 new cash sickness benefits bills were introduced in only 11 states compared with 16 states in 1951. The number of such proposals also decreased from 40 in 1951 to 31 in 1953. The greatest activity seemed to be centered in three states. These are Massachusetts with 12 bills, Connecticut with 6, and Minnesota with 4. Amending legislation, in the four states where temporary disability programs are in operation, showed clearly that the original form of legislation can be altered substantially. The total number of amendatory bills was less this year than in 1951, with 123 proposals compared to 144 two years ago. The scope of these proposals, however, was the same as in previous legislative years, embracing almost every conceivable type of expansion concerning benefits, time covered, waiting periods, and persons covered.

Again, as in previous years, no recommendation as to policy is made. The Council's committee will continue to follow developments and, on request, will be prepared to provide information to states interested.

STUDY OF UNION HEALTH CENTERS

The first phase of the study of organized programs of medical-hospital care for industrial workers provided through unions, management, and employee benefit groups has been completed. A booklet has been prepared for publication containing short descriptions of the organization and operation of 12 of the union health centers. These 12 represent both C. I. O. and A. F. of L. unions and are located in six different states. The discussions in the booklet are designed to provide information on the following categories: history, membership, objectives, facilities, financing, budget and operating costs, administration, business and professional personnel, benefits, and preventive aspects of the services. No effort is made in the booklet to evaluate these plans, although the committee believes that some expression in this regard is necessary and plans to undertake such a project. In addition to the booklet on union health centers, an article has been prepared and submitted to THE JOURNAL for publication. This article will deal generally with the characteristics of the 12 union health centers studied and will include such specific data as is suitable for compilation in table form.

The second phase of the study will have to do with the management or employee benefit sponsored plans. A number of the individual plants have been visited and data already compiled. Additional field visits are planned for this winter and early spring in order to complete a second booklet before the House of Delegates meets in June.

It should be reiterated here that this study is primarily concerned with independent, nonmedical-sponsored plans (not Blue Shield, Blue Cross, or private insurance), which provide medical and/or hospital services for nonoccupational illnesses. Such plans also provide what is generally spoken of as "service benefits" as opposed to "cash" or "cash indemnity" benefits. Most of these programs maintain their own clinic facilities and employ physicians either on a full-time or part-time basis. Their importance to the House of Delegates and to individual practitioners generally is not in their newness but rather in the increasing interest that organized labor has shown in them. Just what place these plans will play in organized medical programs depends on their acceptance by the persons whom they serve and the individual physician who serve them.

UNITED MINE WORKERS

In December, 1952, the Council reported in detail on the activities of the Committee on Medical Care for Industrial Workers in relation to the UMWA Welfare and Retirement Program. In the spring of 1952 the committee sent a survey team into the bituminous coal mining areas to review the conditions there, and in September, 1952, sponsored a conference to which were invited representatives of the five state medical associations in that area and representatives of the area medical offices of the UMWA Welfare and Retirement Program. The recommendations of the survey team, and of the conference as well, have been reported on in detail in THE JOURNAL.

In September, 1953, the committee sponsored a Second Conference on Medical Care in the Bituminous Coal Mine Areas, again in Charleston, W. Va. The meeting was attended by over 70 representatives of the five states concerned (Kentucky, Tennessee, Pennsylvania, Virginia, and West Virginia), by representatives of the Area Medical Offices of the UMWA Welfare and Retirement Fund, and by other invited guests. The purposes of this second conference were as follows:

1. To review the recommendations made at the first Charleston conference with reference to improving medical service in the bituminous coal mine areas;
2. To adopt, revise, or reject these suggestions and recommendations;
3. To discuss ways and means of implementing those recommendations that are acceptable; and
4. To bring to light such constructive positive activities as have been undertaken within the last year to improve medical-hospital conditions in this area.

For the purpose of discussion the problems considered fall within one of the following categories: Medical practice, recruitment and training of physicians, medical and hospital facilities, health education, and organization and function of liaison committees. The conference participants were divided into five groups corresponding with these categories and spent the better part of two days reviewing these general subjects as they pertain to medical and hospital care in the bituminous coal mine areas. A full report of the conference will be submitted to THE JOURNAL for publication.

RESOLUTION ON UMWA WELFARE AND RETIREMENT PROGRAM

In June, 1953, the House of Delegates referred to the Council on Medical Service a resolution referring specifically to the UMWA Welfare and Retirement Fund and requesting "That the American Medical Association, through its proper committees, immediately study this problem in order to ascertain the true objectives and methods of operation of all health and welfare funds."

At the time of the second Charleston conference the Committee on Medical Care for Industrial Workers met with representatives of the Medical Society of the State of Pennsylvania and of the UMWA Welfare and Retirement Fund and discussed at length the problems which motivated the above-mentioned resolution. As a result of that conference it is believed that better understanding of the various factors involved have been attained by all parties concerned. In regard to the request to study "all health and welfare plans," the Council would inform the House of Delegates that its Committee has been studying union health programs for the past year and will continue these and other studies until sufficient data have been gathered on which to suggest a policy. Two steps have already been taken to inform the medical profession of developments in this field—an article describing 12 union health plans has been prepared for publication in THE JOURNAL, and a pamphlet containing full data on their organization is to be published for distribution to interested persons.

Federal Medical Services

The personnel of the Committee on Federal Medical Services has remained the same since the last report and consists of Drs. Louis M. Orr, chairman, Orlando, Fla.; J. D. McCarthy, Omaha; C. B. Puestow, Chicago; Richard L. Meiling, Columbus, Ohio; Harvey B. Stone, Baltimore; Vincent W. Archer, Charlottesville, Va.; Curtis Lohr, Clayton, Mo., and consultants Dr. Frank E. Wilson, Washington, D. C., and Mr. J. W. Castelucci, Detroit. In order to maintain continuous liaison with other association councils, Dr. Edward R. Leveroos, associate secretary, Council on Medical Education and Hospitals, and Mr. C. Joseph Stetler, Secretary to the Committee on Legislation and the Council on National Emergency Medical Service, have been invited to meet with the Committee.

During the first part of 1953 this committee was concerned with laying the groundwork for a general study of federal medical services. The prepared study was approved by the Board of Trustees in February. The committee met in March to review the subject matter involved and to arrange for proper relationship and cooperation during the study with the Secretary's Office, the Washington Office, the Council on Medical Education and Hospitals, and the Council on National Emergency Medical Service.

The staff has briefly reviewed all departments and divisions of the federal government as well as those multilateral international organizations in which the United States participates. The purpose of the review was to learn which federal agencies have activities concerned with health and medical services. In order to learn something of their scope and extent, these activities have been classified under the following headings: (1) Yes, indicating some definite program of medical service; (2) Minor, indicating a small medical service program or services associated with medical care; (3) Advisory, indicating no actual service, research, or grant program, but that the agency advises on health or medical matters; (4) Control, indicating some measure of control is exercised over health matters or services, although none are provided, and (5) Cooperating, indicating that the agency cooperates in some type of medical service programs provided by another agency.

After the various health activities of the federal government were classified under these five headings they were tabulated under the four major divisions of the government; that is, the judicial branch, the legislative branch, the executive branch, and the multilateral agencies. Having learned that 83 of the federal agencies have some concern with medical or health services, these were then reclassified as to type of service under the following headings: (1) maintenance, (2) care, (3) combination, (4) research, (5) grants, (6) supervision, (7) employee, (8) control, (9) investigation, and (10) policy. It is interesting to note that 36 of the agencies having some concern with medical or health services are "independent" agencies of the federal government and do not fall within the 9 basic departments.

Realizing that this is not something that can be done quickly, the committee is still working on the following questions: 1. Which agencies should be given detailed consideration? 2. What is the scope of the information and data to be collected? 3. What are the best methods for collecting data and information in such studies? 4. What of the possibility of using private research agencies? 5. What type of timetable and priority system should be developed for the study?

VETERANS MEDICAL SERVICES

The entire problem concerned with veterans medical services and the policy adopted by the House of Delegates in June concerning non-service-connected disabilities was referred to the Committee on Federal Medical Services after the Annual Meeting. The first project of the committee in this regard was the revision of the Survey of Federal Medical Services. In the light of the June policy statement and in order to direct attention specifically to that portion of the policy having to do with non-service-connected disabilities, a second pamphlet has been prepared and published entitled Medical and Hospital Care of Veterans with Non-Service-Connected Disabilities.

Recognizing the need for understanding of the basic principles and problems involved on the part of state medical association officers and of individual physicians, a special meeting was held in Chicago on Sept. 1. To this meeting were invited representatives of all the state medical associations with a specific request for representation from state committees having to do with the problem of veterans' medical care. The conference was attended by some 95 persons representing 38 state medical associations and gave the committee an opportunity to learn something of the opinion of the constituent medical societies concerning the American Medical Association policy relative to non-service-connected disability cases.

When the House of Delegates adopted the policy statement in June, it also adopted the following recommendation of the Reference Committee " . . . that all of the facilities of the American Medical Association and of its constituent state and county societies be employed immediately to disseminate background information and accurate statistical data in this regard. Every effort should be made to inform the profession and the public concerning the nature of the problem, the position of the American Medical Association, and the reasons on which that position is predicated."

The conference was the first step in carrying out this recommendation. A second step undertaken by the committee is a series of regional conferences throughout the United States. The first four are planned for New York, Washington, Atlanta, and Dallas and will have been completed by the time the House meets in December. The purposes of these conferences are (1) to develop a working liaison with state association veterans' committees; (2) to discuss methods for carrying out the instructions of the House of Delegates; (3) to increase the number of physicians who have a working knowledge of the policy and the facts relating to it; and (4) to learn the situation in each state. On the basis of these conferences the Council will submit a supplementary report to the House in December relative to future activities designed to carry out the above recommendations.

Prepayment Medical and Hospital Service

The Committee on Prepayment Medical and Hospital Service has had two regular meetings since the last formal report. Dr. Lewis A. Alesen, Los Angeles, was named to the committee to fill the vacancy caused by the resignation of Dr. E. Vincent Askey, Los Angeles. Subsequent to his election to the Council, Dr. Carlton E. Wertz, Buffalo, N. Y., was named as the Council member of the committee. In keeping with the plan of having six committee members in addition to the Council member, Dr. O. B. Owens, Alexandria, La., was named as a new member. The other members of the committee at present are Drs. Percy E. Hopkins, chairman, Chicago; Carl F. Vohs, St. Louis; Thomas J. Danaher, Torrington, Conn., and Harold E. Nichols, Seattle.

VOLUNTARY HEALTH INSURANCE

In its last annual report to the House of Delegates the Council estimated that over 90 million persons would be protected by some form of voluntary health insurance at the end of 1952. It is encouraging to report that this estimate was valid, and that the final figures as gathered by the Survey Committee of the Health Insurance Council indicated the correct estimate to be 91,667,000. The total number of persons insured under the separate categories of hospital, surgical, and medical expense benefits were as follows: hospital, 91,667,000; surgical, 73,161,000, and medical, 35,797,000.

The number of persons enrolled in voluntary health insurance plans which are either approved or sponsored by medical associations or coordinated with local hospital benefit plans increased during 1952 to a total of 27,686,575. This represents an increase of 3,720,694 over the figure of 23,965,881 at the end of the previous year. During the current year one plan which had been approved since its inception by a medical association reinsured all of its liabilities with a local insurance company.

The health insurance brochure was revised again this year, and the title was amended to "Voluntary Prepayment Medical Benefit Plans." This title was deemed more appropriate since the booklet describes benefits rather than medical care. Copies of the brochure and the supplemental pamphlet "Charts and Graphs" were mailed to all members of the House of Delegates and officers of the Association. Also, copies were mailed to the plans listed in the brochure, offices of constituent associations and component societies, medical schools, and hospitals affiliated with medical schools. In addition to the regular mailing, copies are sent in response to requests from individual physicians as well as requests from organizations and interested individuals.

In past years a copy of the "Annual Survey of Accident and Health Coverage in the United States" has accompanied the Council publications. This year that publication was not ready for distribution at the time of the Council mailing and was sent to a part of the mailing list at a later date. Another Council publication which has continued to be in demand is "Growth of Voluntary Health Insurance." This pamphlet, revised again this year, contains features from the Council brochure and the annual survey. It is written in non-technical language and is available on request.

As in the past, the Committee on Prepayment Medical and Hospital Service contributed to the efforts of the Survey Committee of the Health Insurance Council. The most recent report of the Health Insurance Council shows the following number of persons insured at the end of 1952 by type of benefit and by type of underwriting agency:

	Type of Benefit		
Type of Underwriting Agency	Hospital	Surgical	Medical
Medical society-approved and/or Blue Cross	43,475,000	27,773,000	18,321,000
Insurance companies (group & individual)	51,709,000	48,817,000	15,275,000
Independent plans	5,364,000	4,794,000	5,150,000
Grand total	100,548,000	81,384,000	38,746,000
Deduction for estimated duplication	8,881,000	8,223,000	2,949,000
Net total	91,667,000	73,161,000	35,797,000

The figures for medical society approved plans include enrolment in Blue Shield plans, and those enrolled under independent plans include programs sponsored by industry, university health plans, consumer-sponsored plans, and private group clinics.

An added feature of the latest Health Insurance Council survey was an effort to determine the number of persons protected by catastrophic insurance benefits, sometimes called major medical expense coverage. This type of insurance differs from earlier experiments in that the insured person is normally expected to pay the initial expenses incident to health care. Beyond this initial, deductible portion of the costs the insured may also be required to participate on a percentage basis in the further costs of health care up to a specified maximum limit. In other words, this approach combines the feature of deductible insurance and the principle of co-insurance. Another basic difference between this type of insurance and the earlier experiments is that benefits are paid on a nonscheduled basis. Benefit payments are made in accordance with the charges for professional, hospital or ancillary services, and normally the only qualifying feature is that the insured is to be reimbursed for such charges as are usual and customary for those services in the area in which they are rendered. Although this particular form of insurance is newer than the others and has certain inherent administrative problems, it was estimated that 689,000 persons had this type of protection at the end of 1952.

SEAL OF ACCEPTANCE

The Seal of Acceptance program continues to be of interest, and an attractive certificate has been prepared to issue to those plans which have been awarded the seal. In keeping with the review schedule originated earlier this year the Committee on Prepayment Medical and Hospital Service is continuing its periodic review of those plans which have been awarded the seal. New applications for the seal continue to be submitted together with supporting data as more plans realize that this is a necessary procedure. The seal is extended only in those instances where an expression of interest is manifested, when formal application is made, and when in the opinion of the committee and the Council the plan satisfies the requirements outlined in the Standards of Acceptance.

SIMPLIFIED CLAIM FORMS

Continued interest is being expressed from several quarters concerning the further use of simplified reporting forms by insurance companies when medical or hospital information is sought to enable the companies to audit claims. The content of the resolution introduced at the 1952 clinical meeting relative to the more widespread use of simplified claim forms has been conveyed to the Health Insurance Council. The Health Insurance Council has appointed a special committee to deal with this problem. That special committee now has several types of claim forms under consideration. Among them are hospital expense, attending physician's statement (including necessary information for payment of surgical benefits), loss of time, individual and group life as well as total and permanent disability insurance claim blanks. The special committee is apparently continuing the efforts initiated earlier by the International Claim Association and the Health and Accident Underwriters Conference. Several years ago those organizations prepared several simplified claim forms including the two Attending Physician's Statement forms which were approved by the Council. It is reported that progress has been made regarding some of the other forms, and it is possible that a few of them will be revised and ready for consideration before the end of the year.

Special Studies

Since the last annual report the Council authorized its Committee on Voluntary Prepayment Medical and Hospital Service to name a special committee to consult with a committee named by Blue Shield Medical Care Plans Commission. That authorization was an outgrowth of proposals which had been reviewed by the Council relating to realms which might be of mutual interest to the two organizations, such as physician attitudes concerning service benefits, coinsurance, etc. These two committees have had several meetings and have collaborated in the development of a questionnaire designed to learn the attitudes of physicians concerning certain aspects of voluntary health insurance. Independent opinions were sought in devolping the questionnaire so it would produce a minimum of misinterpretation among those receiving it and, at the same time, supply credible data not heretofore compiled. The survey itself is under the supervision of the Council and its committee. A sufficient sampling has been planned with a view toward providing data which will be valuable to both the medical profession and the various agencies which underwrite insurance to help pay the costs incident to health care.

After the completion of the current survey further studies are contemplated by the Council and its committee. It is hoped these later studies will ultimately permit a qualitative analysis of some of the quantitative surveys that are conducted on an annual basis. In planning these undertakings it is hoped that other groups, including the Blue Shield Commission, the Blue Cross Commission, and the Health Insurance Council will participate.

Relations with Lay Sponsored Voluntary Health Plans

The present membership of the Committee on Relations with Lay Sponsored Voluntary Health Plans is as follows: Drs. Frank J. Elias, Chairman, Duluth, Minn.; Robert B. Homan, El Paso, Texas; H. Russell Brown, Waterloo, S. D.; George S. Klump, Williamsport, Pa.; James Stevenson, Tulsa, Okla., and Mr. C. H. Crownhart, Madison, Wis.

This Committee has had a series of meetings since the last annual report. As a result of those meetings, the Committee is considering a number of annotations to the "Suggested Principles for Lay Sponsored Volutary Health Plans." The Council submits this as a progress report and will submit a further report at a later date.

Professional Liability Insurance

For several years the Council has concerned itself with many nonlegal phases of professional liability insurance. The House received a resolution at the last annual meeting concerning the practice by certain insurance companies of making extra premium charges when those companies provide coverage to physicians who are members of partnerships. That resolution was referred to the Council on Medical Service.

Two resolutions concerning professional liability insurance were introduced during the 1952 Clinical Meeting. They were from the District of Columbia and Mississippi and are quoted respectively as follows:

Resolved, That the Board of Trustees of the American Medical Association be directed to make an immediate study of the professional liability insurance situation and submit its findings to the House of Delegates at its next meeting, in the meanwhile taking such action as may be appropriate.

Resolved, That the House of Delegates require a continuing study and monitoring of developments in this type of insurance to the end that the interests of the membership may be adequately safeguarded in this vital underwriting service.

The House approved the recommendation of the reference committee that ". . . the Board of Trustees . . . direct the appropriate Council or Bureau to make a continuing study . . . and submit a progress report to the House of Delegates at its next meeting." The Board of Trustees referred those resolutions initially to the Council on Medical Service. To the end that these studies may be more comprehensive they are being continued by the Council staff in cooperation with the staff of the Bureau of Legal Medicine and Legislation.

A progress report was made to the House by the Board of Trustees at the Annual Meeting in June. The studies are in progress and will require a great deal of time since the necessary data, for the most part, have not been maintained on any uniform basis over the years. The resolution concerning the practice of charging extra premiums for partnerships has been included in the scope of the studies. At such time as the Council is in a position to make a more definitive report to the Board it will include this aspect in order to minimize the number of reports addressed to the House concerning the same general subject.

County Society Activities Survey

In 1948, the Council conducted a pilot survey of county medical society activities, covering some 200 societies. A second survey, published in 1951, went into greater detail and covered 757 societies, over one-third of the nation's total. In March, 1953, the Council sent questionnaires to all of the 1,932 (estimated) component societies, basing the questions not only on previous surveys but on additional data and new activities which had come into prominence in the interim. By the time tabulation for the report was begun, 927 replies had been received. The survey therefore covers almost half the nation's societies; its value as a cross section is indicated by the fact that over 85% of the societies, including almost 90,000 physicians, with 100 or more members are represented, and over 40% of the societies with less than 100 members. Geographically also, the survey is a cross section, since replies were received from every state in the Union, as well as from three Hawaiian societies. Actually 1,400 counties are represented since 180 of the societies cover more than one county. The multi-county societies generally represent sparsely settled sections of the country, where one county does not have enough physicians for an active professional organization.

The report covers four general subjects: meetings, activities, personnel (paid employees), and finances, thus providing data on almost every phase of society operation. The data on meetings include tabulation of the frequency of meetings, percentage of attendance, and popularity of subjects.

Activities, the major subject of the report, are broken down into four types: (1) *Society Programs*, dealing with the society's professional relationship with the patient and with other community agencies; (2) *Public Education Programs*, dealing with the interpretation of the society's medical and socio-economic activities to the general public; (3) *Community Programs*, dealing wtih the society's formal or informal participation in programs sponsored by voluntary or governmental agencies; (4) *Group Insurance Programs*, dealing with the various types of insurance coverage available to society members as a group through the county society or the state association.

The section on personnel provides data not only on the number of societies with executive secretaries but also on the number of other employees on society payrolls. The section on finances shows the amount of dues per society for 1953 as contrasted with 1942, the number of societies increasing or decreasing their dues and the number which made special assessments during 1952.

In the earlier surveys, replies were tabulated in four groups, according to the number of members: I—less than 100 members; II—100 to 200 members; III—200 to 300 members; IV—over 300 members. The 1953 replies have been tabulated in six groups, with the first three covering societies with 0-14, 15-49, and 50-99 members respectively, and groups IV to VI the same as II to IV in the previous surveys. It was felt that the variation in activities with the size of the society in groups with less than 100 members is greater than that between societies of 100 and 300 members. The more detailed tabulation, therefore, provides a much clearer picture of the increased activity which accompanies an increase in the number of members. In general, the survey shows that the larger societies have more activities, as might be expected, and a lower percentage attending meetings. The only major increases since the 1951 survey are in emergency call plans and grievance committees, these being activities on which much emphasis has been placed in recent years. Insurance coverage has also increased, as have dues, although only to a slight extent.

The survey indicates that most societies which have sufficient members to engage in organized programs take seriously their obligations both to their patients and to the community at large.

Emergency Call Plans

The growth in the number of emergency call plans continues, and many county societies report that this program has been one of the most effective public relations aids of all the society's activities. From the 60 plans reported in 1948 and the 364 reported in the Council's 1951 survey of county medical society activities, the total number of plans reported had risen to over 660 by the end of 1952. Even this figure is probably less than the actual total of plans in operation, since the 1953 survey of county society activities based on replies from approximately half the nation's component societies shows a total of 432 formal plans. If the same proportion of coverage holds true for societies not replying well over 800 such plans may be postulated. Further growth, however, will probably be much less rapid, since almost all the larger societies now have such plans. Those without formal plans are usually the smaller societies which must depend on informal arrangements by or among individual physicians to provide coverage for patients in the community.

Studies made by individual societies of the calls received indicate that there is little abuse of the service by the public. The majority of calls answered seem to be either actual emergencies or sufficiently serious to warrant the patient's urgent concern. The main difficulty encountered, according to reports from many societies, is a lack of volunteers from the society membership to handle calls. In an increasing number of societies, this problem is being met by a compulsory duty roster whereby all members not exempt by age or physical disability take their turns in treating emergencies. Reports indicate that some physicians believe they may endanger their specialty ratings by handling emergency calls outside their field. However, the great majority of the American Boards agree that the specialist is a physician first when an emergency arises. At the last report, only three boards had not agreed that their members might participate in such plans.

Grievance Committees

Since the 1949 resolution of the House of Delegates concerning the establishment of grievance committees to hear complaints from the public, the Council has studied and urged the development of such committees. In 1952 the Council published a detailed study of the organization and operation of state association committees. This year, 1953, a complementary study of county society committees was published, based on data provided by 198 societies.

At present, all but three states handle complaints either through a committee especially appointed for this purpose or through the Council of the association; the three without such a body have decided that such complaints should more appropriately be considered by the local society. The most recent tabulation of county society committees shows almost 600 societies providing for the hearing of complaints. However, the 1953 survey of county society activities shows over half the societies reporting maintain such a body so that the total at present may be much larger. Among the larger societies, that is, over 200 members, 83% have such committees. This percentage decreases as the size of the societies decrease.

The title, "grievance committee" is by far the most popular, although some 39 other titles are also used. The House of Delegates, in its December, 1952, session, recommended that the Council study the matter of names of these committees. As a result of this study, which showed approximately 60% of the societies using the word "grievance" in the committee title, it would seem that most societies consider this the name best expressing the committee function and most easily understood by the layman. A full report on this was made to the House in June, 1953.

The Council's report on county society committees provides a detailed examination of all facets of committee operation. Among the points considered are membership, meetings, jurisdiction and procedure, complaints received, operational methods, and public relations. A number of tables show the variations in method in relation to the size of the society.

An experiment reported by 10 societies concerning the inclusion of lay members in the committee, may be an important development in society public relations. While the policy of using non-medical representation has had rather widespread acceptance in the prepayment plan field, it is rarely found in the standing committees of medical societies. However, a number of such committees now have functions which tend to make them quasi-public, and it may be that lay or non-medical representation can serve to emphasize the profession's interest in public policy.

Another interesting highlight of the report is the fact that more than one-third of the committees will attempt to settle complaints against nonmember physicians. Although the society, of course, has no jurisdiction over these physicians, their actions, in the public mind, reflect on the whole profession. The society, therefore, attempts to arbitrate such grievances as well as those directed against its own members.

Group Practice Study

World War II brought with it a new interest in the formation of clinics and in group practice itself. As a result, the Council on Medical Service received many requests from physicians interested in organizing a group clinic and inquiring into the many problems involved in such a venture. To assist in this, a group practice loan kit was prepared and used in replying to inquiries on the subject. Although the loan kit has been revised and expanded at intervals during the past few years, it has been impossible to obtain sufficient information from existing published material to provide adequate data for those interested in organizing a group practice unit. In view of this and as a result of conversations with representatives of the American Association of Medical Clinics, it has been decided that the two groups will jointly sponsor a survey of the organization and operation of various types of group practice clinics in the United States.

The purpose of the study is "to develop practical information for the benefit of physicians desiring to start a group practice or for those already in a group practice who wish to alter or improve their existing arrangements." The group practice units selected are to be representative of medium and small groups rather than large groups and are to be located in small communities, medium-sized cities, and areas adjacent to large cities, since most of the interest in group practice is directed toward such areas. A prospectus containing pertinent questions designed to elicit the information necessary to accomplish the purpose of the study has been prepared and approved by both the American Association of Medical Clinics and the Council on Medical Service. No specific time deadline has been set for the completion of the study, but it is hoped that the field visits can be completed by early spring and a report can be made to the House of Delegates at the annual meeting in June, 1954.

Respectfully submitted,

Elmer Hess, Chairman.
J. D. McCarthy, Vice-Chairman.
Robert B. Homan.
H. B. Mulholland.
Louis M. Orr.
Carlton E. Wertz.
Louis H. Bauer.
E. J. McCormick.
David B. Allman.
George F. Lull. Ex Officio
Ernest B. Howard.
Austin Smith.
Mr. Thomas A. Hendricks, Secretary.

REPORT OF THE AMERICAN MEDICAL EDUCATION FOUNDATION

To the Members of the House of Delegates of the American Medical Association:

This, the third report of activity by the American Medical Education Foundation to the House of Delegates of the American Medical Association, marks the 31st month of continuous effort on the part of the officers, directors, and working committees of the Foundation to develop a new and continuing source of income for the nation's medical schools. This program in philanthropic financing, in cooperation with the National Fund for Medical Education, has produced $4,764,052.64, which has been distributed in the form of unrestricted grants to the 79 approved medical schools. While still short of the amount needed annually, these funds have assisted materially in the schools' fight to regain financial solvency, without resorting to federal subsidy. The medical profession has supplied approximately 48% of the total funds raised to date.

Unquestionably the growing acceptance of the Foundation's program by the medical profession can be traced largely to the continuing financial assistance given by the American Medical Association during the past three years. The latest grant of $500,000 brings the total contribution of the American Medical Association to $1,500,000. Without these funds the Foundation would not have progressed to its present position for many more years. The Foundation now stands on the threshold of future success and with the renewed support of the American Medical Association, the realistic goal of 2 million dollars can be attained. The officers and directors view the future with considerable optimism.

In addition to the $500,000 grant from the American Medical Association, during the first seven months of the current year, the Foundation has received contributions from individuals and organizations which swelled the total income to $839,824.37; this is approximately 12% more than was received during the same period in 1952. The number of contributors to the Foundation during the first seven months of 1953 exceeds the total number of contributors in 1952 by more than 92% (13,259 as compared to 7,259 in 1952).

At the June, 1953, meeting, the Board of Directors voted to transfer all accumulated funds of the Foundation to the National Fund for Medical Education as of the close of business June 30, 1953. On that date, the sum of $1,044,602.47 was transferred. It represents the total income of the Foundation for a 12 month period—June 30, 1952, to June 30, 1953. It also represents more than 50% of the total funds distributed by the National Fund in its fourth round of grants to the nation's medical schools. The National Fund made grants totaling $1,944,151.64 during July.

During November, 1952, the Foundation made its first mass mailing to the medical profession. The mailing consisted of a specially designed tax folder which pointed up the value of making a contribution to the Foundation. The mailing was made at a total cost of $9,600 including first-class postage and returned more than $60,000 in 1,600 contributions. In addition to adding dollars and contributors to the Foundation, it served an added role of telling once more the story of the Foundation's program to help the medical school. Another mailing of this type is planned for the same time in 1953 and many state and local campaigns are being tied into it so that they may take advantage of the added impetus of a national direct mail effort.

The Foundation's exhibit will be shown at 12 state and local medical society meetings during the current year, as well as at the annual and clinical meetings of the American Medical Association.

Visits by officers, directors, and the executive secretary were made to 12 state medical society annual meetings, and such visits are scheduled to bring the total to 21 before the end of the current year. In addition to these trips, many special trips have been made by Foundation personnel to various states to assist in the organization of committees, preparations of materials, and conducting conferences relating to the state campaigns.

Approximately 100,000 pieces of promotional material have been distributed through the medium of the state and local campaign committees as well as the state medical societies. Again, the editor and staff of THE JOURNAL have given every assistance in the preparation and publication of editorial material relative to the progress of the Foundation. The Foundation has received space in THE JOURNAL for institutional advertising as in the past. In addition, all state and county medical society editors and executives are to be commended for their continued cooperation during the current year. The Foundation has made use of a news letter type bulletin at regular intervals to keep all personnel concerned with the operation of the program alerted to the many changes which take place during day-to-day operation of the campaign.

The Woman's Auxiliary to the American Medical Association has redoubled its efforts on behalf of the Foundation during the current year. The Foundation has been adopted as the Auxiliary's major project, and, while it cannot be predicted accurately, it is safe to say that the activity of the Auxiliary committees is responsible for much of the activity taking place at the state level.

The Foundation's second annual report was published late due to the extremely heavy editing job that had to be done on the contributor lists. The 1952 report changed format in order to accommodate the large quantity of names which covered not only the contributors to the Foundation, but also the names of individual physicians who had made gifts directly to their medical schools during the year. It is believed that the current annual report contains, for the first time in history, a list of individual contributors to most of the nation's medical schools—30,300 individual members of the medical profession were listed as having made contributions directly to their medical schools. The report also listed 7,259 physicians and organizations who made contributions to the Foundation. The total number of individual physicians contributing to their medical schools and the Foundation amounted to approximately 17.5% of the total physician population in the United States.

The second annual meeting of A. M. E. F. chairmen was held in Chicago during the latter part of January and was attended by representatives from every state. At this meeting, the state chairmen heard the 1953 campaign outlined and participated in a panel discussion of mutual interest to all campaign committee members. The meeting afforded various state chairmen an opportunity to discuss their problems with each other and exchange ideas. The enthusiasm with which those attending participated prompted the directors to vote in favor of another meeting at the same time in 1954. The date for the 1954 annual meeting of chairmen has been established for Sunday, Jan. 24.

The Foundation has received letters from the deans of the 79 approved medical schools expressing their gratitude and appreciation for the financial assistance they have received as a result of contributions from the medical profession. Letters from college presidents and leaders in business, industry, and public life have been received in increasing numbers and offer congratulations to the medical profession for its efforts in behalf of the medical schools. These plaudits actually belong to members of the House of Delegates, trustees, and officers of the American Medical Association as well as the many working committees of the Foundation in every state. Without the wholehearted support of these and the many thousands of contributors, the funds would not have been available for distribution to the medical schools.

The remainder of the current year will be devoted to the conducting of intensive efforts to renew the support of those contributors who have not made their contribution in this calendar year. These efforts will consist of direct mail, both national and local, and personal solicitation on the part of state committees. In addition, considerable attention will be paid to those areas where weaknesses are evident.

Dr. Elmer L. Henderson, who served as the President of this Foundation since its inception in 1950 until his death on July 30, 1953, repeatedly sought the continued cooperation of the House of Delegates of the American Medical Association as well as of the leaders of state and local medical societies in an effort to further the aims and purposes of the Foundation. His efforts on behalf of those ideals and practices which have helped elevate the position of the medical profession in the eyes of the general public, are well-known, and his efforts on behalf of the medical schools in the United States were of equal intensity. Dr. Henderson firmly believed that the American system of medical education was capable of producing qualified physicians, and that in order to maintain that system it was necessary for every member of the profession to give of his time and money, or face the alternative of federal subsidy.

The Board of Directors feels that with the continued support of the American Medical Association and the state and county medical societies, the income of the Foundation can be increased to the desired level of 2 million dollars annually in the immediate future. It is on the belief that this cooperation and activity will continue, that the directors predicate their plans for the year ahead.

Appreciation

The directors of the American Medical Education Foundation wish to thank all those individuals and organizations, both lay and professional, who have so generously supported the foundation during the year. The first years of operation are decisive years in the Foundation's history, for the degree of continued support it receives will determine the degree of its current and future successes. Those who have given so freely of time, effort, and finances deserve the warmest possible recognition.

It is the desire of the directors to point up the continued generosity of the American Medical Association, its House of Delegates, trustees and officers for again making a half million dollar grant to the Foundation during the current year. The special allocation of operating funds which permits the Foundation to pass on every dollar raised to the medical schools deserves special acknowledgment and thanks; however, the $500,000 grant from the American Medical Association has been the cornerstone of this philanthropic effort and has established leadership necessary to attract ever-increasing numbers of contributors.

Respectfully submitted,

ELMER L. HENDERSON, President.†
LOUIS H. BAUER, Vice President.
DONALD G. ANDERSON, Secretary-Treasurer.
HARVEY B. STONE.
GUNNAR GUNDERSEN.
EDWIN S. HAMILTON.
WALTER B. MARTIN.
GEORGE F. LULL.
J. J. MOORE.
H. G. WEISKOTTEN.
VICTOR JOHNSON.
MR. HIRAM W. JONES, Executive Secretary.

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† Deceased.

REPORT OF THE STUDENT AMERICAN MEDICAL ASSOCIATION

The Student American Medical Association during 1952 added further to its stature among organizations dedicated to advancement of the profession of medicine. Although only three years old, the Association now boasts strength and resources which command respect and consideration from all who maintain liaison with it. Although S. A. M. A.'s rapid growth and accompanying expansion of program contributed toward an unusual acceleration of activity, the addition of staff where needed, coupled with complete cooperation on the part of S. A. M. A.'s friends, helped the organization reach its highest and most effective peak to date.

Officers

The Association has continued its good fortune in securing qualified, capable leadership. Every area of the country continues to be represented on the Executive Council, and without exception these leaders have brought high credit to S. A. M. A. whenever and wherever they have served in an official capacity.

Due to the transition in moving the annual conventions from December to late spring the slate of officers which served throughout 1952 was, with wisdom, requested by the House of Delegates in December, 1952, to remain in office through the June, 1953, meeting. They were:

President: David Buchanan, University of Illinois College of Medicine.
Vice President: Clifford Vernick, Tufts College of Medicine.
Treasurer: Leland Hoar, University of Oregon Medical School.
Executive Secretary: Russell Staudacher, Chicago.
Executive Council:
Norman Henderson, Wayne University College of Medicine.
John Caskey, Baylor University College of Medicine.
John Morozumi, Stritch School of Medicine.
Joseph Mason, Boston University School of Medicine.
Charles McGaff, University of Louisville School of Medicine.
Frank Shubeck, University of Michigan Medical School.
Curtis Beam, University of Arkansas School of Medicine.

A new slate to serve through the convention in May, 1954, was elected in June. They are:

President: John H. Caskey, Baylor University College of Medicine.
Vice President: David J. La Fond, Marquette University School of Medicine.
Treasurer: Daniel D. Heffernan, Wayne University College of Medicine.
Executive Secretary: Russell Staudacher, Chicago.
Executive Council:
Clifford Vernick, Tufts College of Medicine.
Donald Harrop, University of Pennsylvania School of Medicine.
Patricia Stuff, Woman's Medical College of Pennsylvania.
Clifton Mountain, Boston University School of Medicine.
Leland Hoar, University of Oregon Medical School.
Stephen Plank, University of California School of Medicine.
Robert Crouch, Bowman Gray School of Medicine.

The following Senior Councilors served without vote and in an advisory capacity:

Ernest M. Irons, M.D., Past President, American Medical Association.
John McK. Mitchell, M.D., Dean, University of Pennsylvania School of Medicine.
Thomas P. Murdock, M.D., Trustee, American Medical Association.

Delegates to the American Medical Association

The following persons attended meetings of the House of Delegates of the American Medical Association as delegates from this Association:

June 1953: Joseph Mason, Boston University School of Medicine. Charles McGaff, University of Louisville School of Medicine.

December 1953: John Caskey, Baylor University College of Medicine. David La Fond, Marquette University Medical School.

Membership

Member chapters in S. A. M. A. today number 63 in as many medical schools. Increasing interest in becoming part of the national medical student voice and a personally directed campaign by Councilors in schools outside S. A. M. A. is expected to add at least 10 new chapters before the annual meeting in May.

Because of the diversity of factors contributing to the absence of chapters in certain areas, the Council is soliciting the help of members of the profession and particularly alumni of these nonchapter schools to assist in this project. Although several new chapters are in the process of organization, the following medical schools as yet are not affiliated: Stanford, Georgetown, George Washington, Howard, Johns Hopkins, Harvard, St. Louis, Washington, Columbia, Cornell, New York Medical, Rochester, South Carolina, Tennessee, Vanderbilt, Vermont, and Dartmouth.

Individual membership in the Association will exceed 19,000 by the year's end, with more than a score of chapters reporting 100% enrolment. This situation should continue as individual benefits of membership establish the desire to join S. A. M. A. as a freshman and continue affiliation through graduation.

As in the past, requests for information about the Association continue to come from groups and individuals at the premedical level. Every effort is made to acquaint these possible future members with S. A. M. A.'s aims and program.

Effective with the January, 1953, issue the Association's publication was available only to dues paid members, members-at-large, and honorary members. This policy provided the chapters with a most effective tool for membership promotion. American students in medical schools abroad, eligible as members-at-large, made application from more than a dozen foreign countries. The increase in the number of physicians applying as honorary members was especially gratifying, as it indicated a sincere interest on the part of physicians in their colleagues-to-be.

The Student Journal

By far its most important asset, the *Journal of the Student American Medical Association* continued to make its impact on the membership as well as those in the professional publishing world. Handicapped by an editorial staff of only two persons, the publication nonetheless survived the loss of assistant editors twice within a year to present a greatly improved format over its issues of a year ago. During 1953, the *Journal* added several departments in development of added usefulness for its student readers. These covered the areas of legal medicine, quackery, medicine in pictures, and the activities of the executive secretary's office.

In May, 1953, the *Journal* passed the break-even point in its existence and began to prove its value as a source of financial support for other Association activities. Today the publication produces a monthly surplus above expenses sufficient to foresee implementation of added member services.

With sincere thanks to the enthusiasm and cooperation of Mr. Thomas R. Gardiner and his capable staff, the advertising revenues have not only been maintained at a healthy level, but have increased.

Liaison

As S. A. M. A. spreads its sphere of influence to encompass the majority of medical students and medical schools it is asked to express itself on many questions of issue and importance. During 1953 S. A. M. A. succeeded in establishing new liaison with ancillary medical and student groups as well as strengthening those already established. The foremost achievement was the election of a S. A. M. A. representative to the Board of Directors of the National Intern Matching Program, which operates the mechanical matching plan for intern placement. To engender student support in this plan, the S. A. M. A. House of Delegates in June named a three-man auditing committee to inspect and report on the plan and its mechanics. This committee returned a highly commendatory report which was published in the *Journal.*

The Association continued its excellent rapport with the American Medical Association, the Association of American Medical Colleges, the American Academy of General Practice, the American Law Student Association, the National Association of Medical-Dental Bureaus, the Medical Exhibitors Association, and many others.

As the years pass, the Association sincerely hopes to effect working friendships with all associations and organizations engaged in a mutual advancement of the profession.

Annual Meetings

The 1953 meeting of the House of Delegates was held June 15, 16, and 17, at the Edgewater Beach Hotel in Chicago. More than 500 students and guests attended the three-day sessions, although the meeting dates were in conflict with exams. The convention program was outstanding and enthusiastically received, as were the various social functions. S. A. M. A.'s first technical exhibit drew more than 30 commercial and scientific exhibitors, who were well satisfied with this initial show exclusively for medical students.

The House of Delegates went on record in support of an earlier date for the 1954 meeting. Accordingly, it will be held May 1, 2, and 3, at the Sherman Hotel, Chicago.

Award

The Association was pleased to accept an attractive illuminated plaque as an award from the American Heritage Foundation for S. A. M. A.'s support of the National Non-Partisan Register and Vote Campaign in 1952.

Finances

The financial picture of the Association improved during 1953 to the extent that it repaid the American Medical Association $10,000 as partial repayment of obligations assumed during the organization's first three years. It is planned that all remaining obligations will be repaid in the near future, leaving S. A. M. A. solvent and successful.

In Appreciation

The Student American Medical Association is sincerely aware of the role played by its friends in American medicine to help the organization move ahead. It also is cognizant of the fact that without this cooperation the Association would enjoy only a part of the success it now does. The Association is also indebted to those corporations and individuals who participated in S. A. M. A.'s progress through advertising in its *Journal* and exhibiting at the convention. Special thanks are due the American Medical Association, Abbott Laboratories, the Blue Shield Medical Care Plans and the Bureau of Exhibits of the American Medical Association for courtesies extended on the occasion of the 1953 convention.

Without the generous help and support of the American Medical Association, this Association could never be where it is today. Therefore, humble appreciation is given for the gift of personnel and headquarters space for S. A. M. A.'s administrative operations. Individual thanks are due everyone from the House of Delegates and Board of Trustees down to the kindly folks who maintain S. A. M. A.'s offices and headquarters facilities. To Dr. Lull, Secretary and General Manager, and Dr. Howard, Assistant Secretary, go personal thanks for counsel and guidance given the executive secretary as he undertook directions of S. A. M. A.'s activities.

This report would be most incomplete without mention of the state and county medical societies and their executive leaders for their strong, never-ending support of S. A. M. A.'s program at both local and national levels. The medical school deans also earned the praise and respect of S. A. M. A. for the way in which they helped make the organization move forward on their campuses.

The Association also wishes to make record of the contributions made by the behind-the-scenes workers in the executive offices without whom the program would be forever slowed.

Respectfully submitted,

John Caskey, President.
David LaFond, Vice-President.
Daniel Heffernan, Treasurer.
Russell Staudacher, Executive Secretary.

THE JOURNAL
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BIG PENSIONS AND BIG GOVERNMENT

Resolutions reaffirming the actions of the House of Delegates in June, 1949,[1] opposing congressional action to force physicians under the Old-Age and Survivors Insurance section of the Social Security Act will be introduced at the meeting of the House of Delegates in St. Louis, Dec. 1-4. The American Dental Association reaffirmed its opposition in September. Somewhat similar views have been expressed in recent years by the governing bodies of the American Bar Association, the American Farm Bureau Federation, and other national organizations composed largely of self-employed persons. Recently the American Institute of Accountants changed its position from one of opposition to neutrality.

Most employed persons, including many members of these organizations, are now covered by the Social Security Act. The Chairman of the Committee on Legislation of the American Medical Association and the Association's Economist and Director of the Bureau of Medical Economic Research have prepared jointly an analysis (page 921) of the outstanding defects of Old-Age and Survivors Insurance (OASI). They have set forth some of the basic reasons why members of the medical profession should continue to oppose the proposed extension of the Social Security Act to cover self-employed physicians and others not covered by previous legislation. The Director of the Bureau, speaking for himself but not necessarily for the A. M. A., has suggested three fundamental reforms that would convert the plan into a reasonably equitable system. Numerous bills pertaining to social security now before Congress and statements during the year by President Eisenhower, at the behest of his advisors, make it reasonable to expect that the House of Delegates will take cognizance of these new developments on this highly controversial issue.

An ostensible reason for physicians to disapprove compulsory coverage under OASI warrants only a brief comment. The median age at which self-employed physicians over age 64 are currently retiring is 74. The retirement ages of self-employed lawyers, dentists, and farmers is probably about the same. Under the so-called work rule no eligible person can draw an OASI pension if he earns $75 a month between ages 65 and 75. This would obviously mean that half of the self-employed physicians would, under the President's proposal, be required to pay social security taxes but would not receive one penny of benefits until age 74. But relaxing the "work rule" to make coverage more attractive to these 10 million gainfully employed would, unless accompanied by a sharp increase in OASI taxes, merely increase the get-something-for-next-to-nothing potential of this act. The President's proposal would bring us close to Townsendism, and an elimination of the "work rule" would just about fulfill the hopes and dreams of Dr. Francis E. Townsend.

The basic objection to bringing an additional 10 million persons under OASI is that such an action by the Congress would be another long step toward Big Government and the Welfare State. Social security taxes, counting both employers' and employees', are currently only token payments and will defray only a portion of the costs of the OASI pensions. The tax rates of employers and employees could be doubled and also graduated according to age—a change that is much more urgent than a modification of the "work rule." Yet on May 20 the Congress was asked to take the steps necessary to prevent the scheduled increase of one-half of one per cent in the tax rate, which, according to present law, will begin on January 1, 1954. The unpaid balance of the pension costs as older persons receive their monthly pension checks must be paid by another generation. Those who oppose this steady march toward the Welfare State must always refuse the bait: in this case, pensions at cut-rate prices. They must oppose the doctrine of individual irresponsibility except for the care of those in dire need, which, in fact, is the essence of the principles that guide the life of a physician in his practice. They must always stand firmly against the exploitation of youth by those who were born many years earlier. They must insist on standing on their own feet and providing for their own retirement needs. Those who can pay should pay their own way; those who cannot pay must, of course, be helped.

Opposition to this trend toward the Welfare State is one reason for supporting the Jenkins-(Reed)-Keogh bills (H. R. 10 and 11), which would establish a voluntary retirement plan for the self-employed and the pensionless employed. They would amend the federal internal revenue code but would not change the Social Security Act. They are in the public interest. The amount of each person's pension would be determined by how much he set aside for old age, and not one penny would be added to his fund by the government. He would be permitted to defer taxes on the annual amount set aside each year until he retired and began to receive his pension, which would be currently taxable. The provisions in these bills for tax deferment until retirement are the counterpart of those now enjoyed by employed persons covered by more than 20,000 tax-exempt pension plans. Except in case of permanent disability he could not draw benefits from his fund until age 65, but after age 65 he could draw out benefits as he sees fit. These bills, unlike the Social Security Act, would not force one into idle retirement in order to draw on his own pension fund. He could keep right on working as the majority of practicing physicians do.

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[1] J. A. M. A. **140**:693 (June 25); 791 (July 2) 1949.

VITAMIN B_{12} RESEARCH

About 60 scientists representing government, university, hospital, and industrial laboratories recently met in Baltimore to participate in a symposium on current research in vitamin B_{12}. The program, which was organized by Dr. Bacon F. Chow, associate professor of biochemistry in the School of Hygiene and Public Health of Johns Hopkins University, included reports on the metabolic roles of vitamin B_{12}, the mechanism of its action in blood formation, and related subjects. During the two day conference, 20 investigators presented summaries of their data and conclusions on the various facets of the problems.

Evidence was presented that indicates an important role of the vitamin in the synthesis of nucleic acids and in the formation or function of such metabolically active compounds as glycine, serine, methionine, and choline. Interrelationships between vitamin B_{12} and other vitamins, such as pyridoxine and pantothenic acid, were demonstrated. Additional evidence for the interdependence of vitamin B_{12} and the folic acid series was presented and the role of intrinsic factor was reviewed. Growth studies were reported emphasizing the importance of adequate supplies of the vitamin in the metabolism of carbohydrate and fat, including not only the conversion of carbohydrates to fat but the metabolism of fat itself.

Vitamin B_{12} has been shown to play an important role in modifying the concentration of sulfhydryl-containing components of physiological importance, among which might be enumerated glutathione and coenzyme A. The hypothesis was presented that in the absence of adequate supplies of the vitamin, coenzyme A would not be reduced from the disulfide to the sulfhydryl form and would, therefore, inhibit the normal pathways of fat metabolism. Under conditions of chronic deprivation of vitamin B_{12}, evidence in support of this thesis is found in the accumulation of fat in the tissues of both chicks and rats. Much detailed study of isolated enzyme systems will be required for a fuller understanding of these highly suggestive leads.

Of clinical importance were the reports on anemia and intrinsic factor studies. Additional evidence of the essentiality of both vitamin B_{12} and the folic acid group in blood formation was presented. The current concept that pernicious anemia represents a tissue deficiency of vitamin B_{12} produced by hypofunction of intrinsic factor-producing cells in the gastrointestinal tract, which in turn results in failure of absorption of dietary vitamin B_{12}, was reemphasized. Mechanisms of action of intrinsic factor were discussed. Reports suggesting a wide variation in the amount of intrinsic factor present in patients with pernicious anemia and possibly in the aged, although preliminary in nature, emphasized the need for caution on the part of the physician in the oral use of intrinsic factor-vitamin B_{12} preparations in the treatment of pernicious anemia. Such preparations when administered in adequate quantities are effective. This presupposes adequate stability and proper standardization of the preparation. It is possible to administer inadequate doses to certain patients, particularly to those in whom production of natural intrinsic factor is virtually nil. The neurological manifestations of pernicious anemia may be masked by the concomitant administration of folic acid and inadequate doses of vitaman B_{12}-intrinsic factor combinations. This emphasizes the need on the part of the physician for close and constant observation of the pernicious anemia patient treated by the oral route.

A highlight of the symposium was the report of a clinical group from Johns Hopkins Hospital. All of 20 patients with pernicious anemia treated for a period of three and one-half years or longer have responded and have been maintained satisfactorily and completely with large oral doses of vitamin B_{12} administered without intrinsic factor. A single initial oral dose of 5 mg. was adequate in every instance to produce a satisfactory response for patients in relapse. After this, a single oral dose of 1 mg. administered once a week has maintained these patients in remission. No neurological or hematological relapse has been observed, and periodic blood studies revealed completely satisfactory maintenance of the blood picture. It was emphasized that smaller oral doses administered at more frequent intervals, although effective in certain patients, failed to produce a satisfactory response in all patients. The clinicians warned that this study must be continued for a longer period, because of the vagaries of pernicious anemia, before this method of treatment could be considered as a substitute for parenterally administered vitamin B_{12}.

In another series of reports at the symposium, vascular complications of diabetes mellitus, such as diabetic retinitis and the intraglomerular capillary sclerosis of the Kimmelsteil-Wilson syndrome, were discussed. Literature and case record research were reported to have revealed that the incidence of retinitis apparently increases with the duration of the disease and is present in a very large percentage of patients with a history of diabetes mellitus of 20 years or longer. A correlation with the incidence of diabetic neuritis, the symptoms of which in some respects resemble the neuritic involvement of pernicious anemia, was also suggested.

In relation to these findings was the discovery of investigators from the Johns Hopkins group that *patients* with diabetic retinitis excreted more of a test dose of vitamin B_{12} than did diabetics without retinitis or normal persons. Normal subjects excrete an average of about 9 mcg. of vitamin B_{12} in an eight hour period after injection of a test dose of 50 mcg. of vitamin B_{12}. Diabetics without retinitis excrete an average of 4.2 mcg. and those with retinitis, 19 mcg. Studies of collaborating groups indicate that abnormally high amounts of an adrenal cortical substance are excreted in the urine of patients with diabetic retinitis and that those without retinitis excrete normal or lower than normal amounts of this substance.

The reports presented at this symposium indicate that research in the fundamental roles of vitamin B_{12} have materially extended the concept of its importance in basic metabolism. Interesting and promising new channels for research were demonstrated. Of particular importance was the development of improved techniques, such as the use of radioactive-cobalt-labeled vitamin B_{12}. This symposium emphasizes the value and need for collaboration on the part of observers and groups active in different fields of research.

ORGANIZATION SECTION

SCIENTIFIC EXHIBIT—SAN FRANCISCO MEETING

The Scientific Exhibit will again be one of the features of the Annual Meeting in San Francisco, June 21-25, 1954, with exhibits portraying advances in all branches of medicine. The exhibits will be grouped as far as possible according to the different specialties, but their scope will be broad, intended for general interest rather than for the specialist. Representatives to the Scientific Exhibit have been elected by each Section of the Scientific Assembly to assist and advise the committee in the procurement and selection of exhibits as follows:

Section on Anesthesiology, Scott M. Smith, M.D., 910 Medical Arts Bldg., Salt Lake City 1.

Section on Dermatology and Syphilology, Samuel M. Bluefarb, M.D., 30 N. Michigan Ave., Chicago 2.

Section on Diseases of the Chest, Edwin R. Levine, M.D., 109 N. Wabash Ave., Chicago 2.

Section on Experimental Medicine and Therapeutics, Joseph F. Ross, M.D., Evans Memorial Hospital, 65 E. Newton St., Boston 18.

Section on Gastroenterology and Proctology, J. P. Nesselrod, M.D., 636 Church St., Evanston, Ill., and William H. Dearing Jr., M.D., Mayo Clinic, Rochester, Minn.

Section on General Practice, Charles E. McArthur, M.D., 1934 E. Fourth Ave., Olympia, Wash.

Section on Internal Medicine, John S. Lawrence, M.D., 405 Hilgard Ave., Los Angeles 24.

Section on Laryngology, Otology and Rhinology, Walter E. Heck, M.D., Stanford University Hospital, Clay and Webster St., San Francisco 15.

Section on Military Medicine, Brig. Gen. Rawley E. Chambers, MC, Chief, Professional Division, Office of the Surgeon General, Department of the Army, Room 2837, Main Navy Bldg., Washington 25, D. C.

Section on Nervous and Mental Diseases, G. Wilse Robinson Jr., M.D., 2625 The Paseo, Kansas City 8, Mo.

Section on Obstetrics and Gynecology, Frederick H. Falls, M.D., University of Illinois College of Medicine, 1853 W. Polk St., Chicago 12.

Section on Ophthalmology, W. F. Hughes Jr., M.D., 1853 W. Polk St., Chicago 12.

Section on Orthopedic Surgery, J. Vernon Luck, M.D., 1930 Wilshire Blvd., Los Angeles 5.

Section on Pathology and Physiology, Frank B. Queen, M.D., 3181 S. W. Sam Jackson Park, Portland 1, Ore.

Section on Pediatrics, F. Thomas Mitchell, M.D., LeBonheur Children's Hospital, 848 Adams, Memphis 5, Tenn.

Section on Physical Medicine and Rehabilitation, Donald A. Covalt, M.D., 400 East 34th St., New York 16.

Section on Preventive and Industrial Medicine and Public Health, Paul A. Davis, M.D., 633 E. Market St., Akron 4, Ohio.

Section on Radiology, Richard H. Chamberlain, M.D., 3400 Spruce St., Philadelphia 4.

Section on Surgery, General and Abdominal, John H. Mulholland, M.D., 477 First Ave., New York 16.

Section on Urology, Roger W. Barnes, M.D., Chairman, 1216 Wilshire Blvd., Los Angeles 17; Norris J. Heckel, M.D., 122 S. Michigan Ave., Chicago 3; and George H. Ewell, M.D., 16 S. Henry St., Madison 3, Wis.

Application blanks for space in the Scientific Exhibit at the San Francisco Meeting are now available. They may be obtained from the above Section Representatives or from the Director, Scientific Exhibit, American Medical Association, 535 N. Dearborn St., Chicago 10, Ill.

NEW A. M. A. PUBLICATIONS

Medical Society Grievance Committees

This pamphlet, prepared by the Council on Medical Service of the American Medical Association, shows the organization and operation of local grievance committees. The data have been compiled from reports submitted to the Council by 198 county medical societies representing a variety of urban and rural committees.

Activities of County Medical Societies

This pamphlet, just off the press, is the report of another year's survey of the activities of county medical societies and contains tables and comments concerning data prepared primarily for use by medical society offices. The completeness of this report was made possible through the cooperation of the officers of 927 medical societies. The Council, since 1948, has maintained an ever-increasing file of data and information concerning such activities.

Rule Book of Committee on Cosmetics

Just off the press is the revised edition of the "Offiical Rules of the Committee on Cosmetics of the A. M. A." This booklet contains requirements for presentation of products and rules governing the acceptance of products by the Committee. Copies are available on request.

Proceedings of Conference on Cancer

The Proceedings of the Second Conference on Steroids and Cancer, held in April, 1951, have now been published and are available in a paper-bound volume at $3.50 from the Order Department, American Medical Association, 535 North Dearborn Street, Chicago 10, Ill.

WMA TO MEET IN ROME NEXT YEAR

The World Medical Association will hold its 1954 meeting in Rome, Sept. 26-Oct. 2. Since 1954 is a Holy Year, there will be heavy demands for transportation and hotel reservations. Any A. M. A. member who wishes to attend this meeting should write to the World Medical Association, 345 East 46th Street, New York 17, as soon as possible. The WMA will secure transportation, hotel reservations, and help plan any side tours of Europe that the member desires. No charge is made to the physician for this service.

REGIONAL CONFERENCES ON VETERANS MEDICAL CARE

The Committee on Federal Medical Services of the A. M. A. Council on Medical Service is sponsoring a series of regional conferences throughout the United States to discuss A. M. A. policy regarding medical care for veterans with non-service-connected disabilities. For the present, one-day meetings have been scheduled for Dallas, Atlanta, New York, and Washington, and representatives from five surrounding states have been invited to each. Following are the dates and the states to be represented at each session: Dallas, Friday, Nov. 6—Texas, Louisiana, Oklahoma, Arkansas, and Mississippi; Atlanta, Sunday, Nov. 8—Tennessee, Alabama, Georgia, South Carolina, and Florida; New York, Friday, Nov. 13—New York, Pennsylvania, New Jersey, Connecticut, and Rhode Island; and Washington, Sunday, Nov. 15—Maryland, Virginia, West Virginia, Delaware, and North Carolina.

PR CONFERENCE LUNCHEON

The luncheon speaker at the American Medical Association's Public Relations Conference in St. Louis Nov. 30 will be Dr. Leo H. Bartemeier, Detroit, Chairman of the A. M. A.'s Committee on Mental Health. Dr. Bartemeier will discuss "What Motivates the Public's Attitude Toward Medicine?"

MEDICAL NEWS

CALIFORNIA

Psychiatric Meeting.—The Southern California Psychiatric Society will hold its first annual meeting Nov. 14 at the Hotel Statler, Los Angeles. The following program will be presented at 1 p. m.:

- Albert J. Glass, Col. (MC), Ft. Sam Houston, Texas, Psychotherapy in the Combat Zone, (discussant, Ralph R. Greenson, Beverly Hills).
- Milton H. Erickson, Phoenix, Ariz., Development of an Acute Limited Obsessional Hysterical State in a Normal Hypnotic Subject, (discussant, Judd Marmor, Beverly Hills).
- Douglass W. Orr, Seattle, Common Pitfalls in Psychotherapy, (discussant, Leo Rangell, Beverly Hills).

A cocktail party, 6 p. m., will precede the dinner dance in the Golden State Room.

COLORADO

Rural Health Conference in Denver.—A regional Rural Health Conference will be sponsored by the Colorado State Medical Society at the Shirley-Savoy Hotel, Denver, Nov. 11-12. The address of welcome by Dr. Claude D. Bonham, Boulder, president of the state society, Wednesday, 9:45 a. m., will be followed by a panel discussion of the medical budget. At 12:15 p. m. Wednesday and Thursday, there will be a luncheon and round-table discussion of rural health problems led by guest speakers, Mr. Aubrey D. Gates, Little Rock, Ark., Field Director, A. M. A. Council on Rural Health, and Dr. Fred A. Humphrey, Fort Collins, Council member. Opening the Thursday session, 9 a. m., will be "A Typical County Health Survey—Its Objectives and Results" with discussion by Dr. Murland F. Rigby, Rexburg, Idaho, and Dr. Valentin E. Wolhauer, Brush. The sessions will conclude with the discussion, "The Use and Abuse of the Country Doctor," by Mrs. Alonzo A. Petteys, editor, *Daily High Plains Journal,* Sterling, and Tee Simms, ranch home editor, *Record-Stockman,* Denver.

CONNECTICUT

Lectures on Cardiovascular Disease.—The Stamford Heart Association announces its second monthly series of lectures on cardiovascular disease for physicians in Fairfield County, beginning Nov. 10. Topics and speakers include:

- Arteriosclerosis, David P. Barr, New York.
- Diagnostic Technique in Cardiovascular Disease, Arthur Grishman, New York.
- Surgical Treatment of Cardiovascular Disease, Reginald H. Smithwick, Boston.
- Rheumatic Fever, Gene H. Stollerman, New York.
- Problems in Diagnostic Analysis and Treatment of Dyspnea, Dickinson W. Richards, New York.
- Care of the Patient after Myocardial Infarction, William Dock, Brooklyn.
- Heart Disease and Pregnancy, Burton E. Hamilton, Brookline, Mass.

There is no fee for the series, which is accredited and endorsed by the Academy of General Practice and the Stamford Medical Society. For information contact Mrs. Shirley K. Sarkin, Executive Secretary, Stamford Heart Association, Stamford Hospital, Stamford.

ILLINOIS

Personal.—Dr. Clara Edmunds Holmberg, Springfield, was honored at a recent meeting of the Sangamon County Medical Society when she was presented with a 50 year club certificate and pin from the Illinois State Medical Society.

Chicago

Cardiac Conference.—The cardiovascular committee of the Cook County Hospital announces that the next regular monthly clinicopathologic cardiac conference will be held Nov. 13, 11 a. m. to 12 noon in the Children's Amphitheatre, 700 S. Wood St. "Studies on the Pharmacology and Clinical Use of Quinidine in Heart Disease" will be presented by Dr. George C. Sutton, Evanston, with discussion by Drs. Chauncey C. Maher and Louis Feldman, Chicago.

Society News.—The Chicago Medical Society announces a dinner, 6:30 p. m. Nov. 12, at the Sheraton Hotel, 505 N. Michigan Ave., in honor of Dr. Armand J. Quick, professor of biochemistry, Marquette University School of Medicine, Milwaukee, and Dr. Joseph F. Ross, associate professor of medicine, Boston University School of Medicine, who will be guest speakers at the joint meeting of the Chicago Medical Society and the postgraduate course in cardiology and hematology, which will follow the dinner. At 8 p. m. Dr. Quick will discuss "The Basic Factors in Hemostasis." Dr. Ross will present "The Blood Volume in Congestive Heart Failure."

Fund for Muscular Dystrophy Research.—The Chicago chapter of the Muscular Dystrophy Associations of America announces a program to assist in raising funds for the support of medical research in some 16 universities throughout the United States. The chapter will have available during November, the month of the national drive, and December speakers, educational films, and other free material for any organization requesting them. (Contact Lee Kling, AMbassador 2-7095, or write to Muscular Dystrophy Association, Box 455, Chicago.) The annual dance of the Chicago chapter will be held Nov. 14 at the U. E. Hall, 37 S. Ashland Ave. The Chicago Medical Advisory Board is composed of Drs. Louis Scheman and Ralph H. Kunstadter.

Phi Delta Epsilon Lectures on Radioisotopes.—The chapters of Phi Delta Epsilon fraternity of three medical schools in Chicago are sponsoring their annual lectureship Nov. 10-12 in honor of Dr. Isaac A. Abt, professor emeritus of pediatrics, Northwestern University Medical School; Dr. Julius H. Hess, professor emeritus of pediatrics, University of Illinois College of Medicine; and Dr. John J. Sheinin, president, Chicago Medical School. The lecturer, Paul C. Aebersold, Ph.D., director of isotope research, Atomic Energy Commission, Oak Ridge, Tenn., will speak on the following subjects:

- Nov. 10, 4 p. m. (Thorne Hall, Northwestern University Medical School), Contributions of Atomic Energy to Medicine.
- Nov. 11, 1 p. m. (University of Illinois Medical School), Radioisotopes—Tools for Medicine.
- Nov. 12, 8 p. m. (Chicago Medical School—Kling Auditorium, Mt. Sinai Hospital), Use of Radioisotopes in Medical Research, Diagnosis, and Therapy.

On Tuesday a dinner will be given in honor of the lecturer and Drs. Abt, Hess, and Sheinin.

NEW JERSEY

Lecture on Expert Testimony.—Dr. Winfred Overholser, professor of psychiatry, George Washington University School of Medicine, Washington, D. C., will give the 7th annual C. C. Beling memorial lecture, "Medical Expert Testimony and Its Improvement," under the auspices of the New Jersey Neuropsychiatric Association at the Academy of Medicine of Northern New Jersey, 91 Lincoln Park, Newark, Nov. 11, 8:45 p. m.

NEW YORK

Society News.—At the meeting of the Rochester Academy of Medicine (1441 East Avenue), Nov. 10, 8:30 p. m., Dr. Wilfred G. Bigelow, Toronto, Canada, will speak on hypothermia. The Dec. 1 meeting will be addressed by Dr. George Hoyt Whipple, Rochester, who will discuss "Blood Proteins—Hemoglobin and Plasma."

Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education and public health. Programs should be received at least three weeks before the date of meeting.

Discussion of Cardiovascular Surgery.—Dr. Marcus M. Ravitch, director of surgery, Mount Sinai Hospital, New York City, will discuss "Surgical Treatment of Cardiovascular Disorders," Nov. 12, 8:30 p. m., in the auditorium, Freeman Pavilion, Jewish Sanitarium and Hospital for Chronic Diseases, 86 East 49th St., Brooklyn 3.

Hospital News.—At the staff conference of High Point Hospital, Port Chester, Nov. 11, 8:30 p. m., at the New York Academy of Sciences, 2 E. 63d St., New York City, the topic will be "Psychoanalysis of Groups" and the speaker, Dr. Alexander Wolf, New York. All members of the profession are invited to attend.

Cancer Teaching Day.—The Dutchess County Medical Society will observe its cancer teaching day, Nov. 11, with an afternoon meeting at Sadlier Hall, St. Francis Hospital, Poughkeepsie, and an evening meeting at Ryan Hall, Hudson River State Hospital in Poughkeepsie. After a tour of the radioisotope laboratory, the following program on the early diagnosis of cancer will be presented by New York City physicians: breast, Dr. Jerome A. Urban; stomach, Dr. George T. Pack; cervix, Dr. James A. Corscaden; and lung, Dr. Laurence Miscall. A social hour, 6 p. m., will precede dinner, which will be followed by a business meeting at 8 p. m. Advance reservations for dinner are required. Checks for $4 should be sent to Dr. Reuben T. Lapidus, 39 Hooker Ave., Poughkeepsie.

Conference on Aging.—The second annual Capital District Conference on Aging will be sponsored by the Albany County Department of Public Welfare at the Ann Lee Home, Albany, Nov. 12, 1-4 p. m., for discussion of "Rehabilitation of Older People." Dr. John J. Phelan, medical director, Ann Lee Home, will serve as moderator at 2:05 p. m. The first panel, "Medical Aspects of Rehabilitation," 2:15 p. m., will include discussions on (1) food, (2) cardiac rehabilitation (Dr. Raymond Harris, Albany), and (3) psychologic and psychiatric problems (Dr. Eugene Davidoff, Schenectady). Participating in the general discussion will be Drs. Philip L. Forster, John W. Ghormley, Thomas J. O'Donnell, Marcus B. Einhorn, and William E. Pickett, Albany, Harold E. Marden, Delmar, and William Griesau, Troy. A panel, "Vocational Rehabilitation Employment Problem of the Aging," at 2:15 p. m., will be followed by general discussion.

OHIO

Lecture on Lung Lesions.—The Fort Steuben Academy of Medicine is presenting a monthly series of lectures at the Fort Steuben Hotel, Steubenville, to which physicians and interns are cordially invited. On Nov. 10 Dr. Eugene P. Pendergrass, Philadelphia, will present "Roentgen Diagnosis of Legions of the Lung."

Diabetes Detection Program.—The Cleveland Diabetes Society and the Diabetes League of Greater Cleveland in cooperation with the American Diabetic Association and the Cleveland City Health Department will conduct a mass screening program for diabetes detection, Nov. 15-21. The cooperation of all members of the medical profession and allied professions is requested.

Society News.—The Academy of Medicine of Cincinnati will have as guest speaker on Nov. 10 Dr. Earl D. Osborne, professor of dermatology and syphilology, University of Buffalo School of Medicine, who will address the joint meeting with the Cancer Council on the treatment of skin cancers. On Nov. 24 Dr. John C. Burch, professor of obstetrics and gynecology, Vanderbilt University School of Medicine, Nashville, Tenn., will discuss "The Management of Leukorrhea."

UTAH

Course on Physiological Basis for Present Day Therapy.—The American College of Physicians will sponsor a course on present-day therapy and its physiological basis at the department of medicine, University of Utah College of Medicine, Salt Lake City, Nov. 9-13, under the direction of Drs. Maxwell M. Wintrobe and Louis S. Goodman. The guest faculty includes Dr. J. Burns Amberson and Alfred Gilman, Ph.D., New York, and Dr. Harry Eagle, Bethesda, Md. Fourteen members of the University of Utah faculty will participate with the guests in symposiums on (1) pulmonary emphysema and its complications, (2) disseminated lupus erythematosus, and (3) therapeutic uses of corticotropin (ACTH) and cortisone. On Monday there will be round tables on splenic disorders and hematology. Monday, 8 p. m., Dr. Amberson will give the Tyndale lecture, "Aspects of Chemotherapy of Tuberculosis." Staff rounds will be made Wednesday morning, and a tour of laboratories, the university, and the city is scheduled for the afternoon. In the evening Dr. Eagle will have as his topic, "Studies in Mode of Action of Antibiotics." Thursday afternoon there will be a round-table discussion on therapeutic indications, and Thursday evening Dr. Gilman will talk on the acidification of the urine. A roundtable on diuretics will be held Friday morning.

WEST VIRGINIA

Practitioners Meet in Parkersburg.—The West Virginia chapter of the American Academy of General Practice will hold a scientific meeting at the Chancellor Hotel in Parkersburg, Nov. 8, 10:30 a. m. to 3:30 p. m. The following program has been arranged by Dr. Seigle W. Parks, Fairmont, chairman of the program committee:

Pyelitis in Pregnancy, George Nordlinger, associate clinical professor of obstetrics and gynecology, George Washington University School of Medicine, Washington, D. C.

Toxemia in Pregnancy and Abortion, George J. Fuchs Jr., chief medical officer, department of obstetrics and gynecology, District of Columbia General Hospital, Washington, D. C.

GENERAL

Meeting on Rheumatism.—The Ohio and Western Pennsylvania regional meeting, American Rheumatism Association, will convene at the Mayflower Hotel, Akron, Ohio, Nov. 11. Presentations will be made by Drs. Robert M. Stecher, Cleveland; Currier McEwen, Charles A. Ragan, Richard H. Freyberg, and Robert L. Preston, New York; John H. Talbott, Buffalo; Gordon M. Martin, Rochester, Minn.; and Joseph J. Bunim, Bethesda, Md. At 3:40 p. m. there will be a period of panel questions and answers, and at 7 p. m. a dinner. Registration fee, $5; dinner tickets, $5.

Papers Invited for Clinical Research Meeting.—The Northwest Society for Clinical Research will hold its annual meeting in combination with the western section of the American Federation for Clinical Research, Jan. 28, 1954, in Portland, Ore. The society will also meet with the Western Society for Clinical Research, Jan. 29-30. Members desiring to present papers will have space on the western section program. Abstracts should be sent in triplicate, before Nov. 15, to Dr. Isidore Edelman, Secretary, University of California, Medical Office, San Francisco Hospital, Potrero and 22nd streets, San Francisco.

Society for Crippled Children and Adults.—The annual convention of the National Society for Crippled Children and Adults will be held at the Palmer House, Chicago, Nov. 11-14, under the presidency of William T. Sanger, Ph.D., Richmond, Va., who will deliver the presidential address at 9:30 a. m. Thursday. His remarks will be followed by the talk, "A World Without Limits," by Dr. Edward J. McCormick, Toledo, Ohio, President of the American Medical Association, who is councilor for the society. The Friday session will be opened at 9 a. m. by a presentation, "Rehabilitation—Key to Human Dignity," by Dr. Henry H. Kessler, Newark, N. J. At a parents' institute to be held Friday afternoon, Frances R. Horwich, Ph.D., who presents the TV program, "Ding Dong School," will give a talk, "Understanding Your Child." Dr. Julius B. Richmond, professor of pediatrics, State University of New York College of Medicine at Syracuse, will participate in a panel, "Self Understanding for Parents of Handicapped Children." The president's dinner will be held at 7:30 p. m. in the grand ballroom. Saturday, 9:30 a. m. a seminar for physicians, therapists, nurses, social workers, etc., will be held in Room 14, where Dr. Kessler will speak on rehabilitation techniques.

Neurological Surgeons Meet in New Orleans.—The Congress of Neurological Surgeons will convene at the Hotel Roosevelt in New Orleans, Nov. 12-14. A panel discussion on the anatomy and physiology of the frontal lobes is scheduled for Thursday, 2-4 p. m., and a panel discussion, "Psychosurgery: Indications and Sequelae," for Friday, 9-11 a. m. Saturday morning there will be a panel on the use of fluids and electrolytes in the management of the neurosurgical patient. Sir Geoffrey Jefferson, emeritus professor of neurosurgery and lately director of the neurosurgical laboratories, University of Manchester, England, will speak on (1) chiasmal gliomas, (2) trigeminal tumors, benign and malignant, and (3) changing ideas on the integration of the brain. Other guest speakers include: Dr. A. Earl Walker, Baltimore; Dr. Robert G. Heath, Hymen S. Mayerson, Ph.D., Dr. Alton Ochsner, and Walter Wilde, Ph.D., New Orleans; Dr. Stanley Cobb, Boston; Dr. Gerhardt Von Bonin, Chicago; Dr. Harold Himwich, Galesburg, Ill.; and Dr. J. Lawrence Pool, New York. A cocktail party, 6:30-8 p. m. will precede the banquet and dance (informal dress) on Friday. The congress will be preceded by a review course in neuroradiology under the direction of Dr. Joseph N. Ané, New Orleans, Nov. 11, for which Dr. Harold O. Peterson, Minneapolis, will be guest radiologist.

Joint Meeting on Tropical Medicine and Hygiene.—The annual meeting of the American Society of Tropical Medicine and Hygiene will be held jointly with the 20th annual meeting of the American Academy of Tropical Medicine at the Brown Hotel, Louisville, Nov. 12-14. The academy will sponsor a symposium, entitled "Global Interest in Tropical Medicine," and the society, a symposium on "Diarrheal Diseases Other Than Amebiasis." On Thursday, 9 a. m., the 18th Charles Franklin Craig lecture, "Problems in the Control of Schistosomiasis," will be presented by Dr. Henry E. Meleney, Louisiana State University School of Medicine, New Orleans. Thursday, 7 p. m., the American Society of Tropical Medicine and Hygiene will hold a dinner in celebration of the 50th anniversary of its founding, with Dr. Lewis W. Hackett, New York, presiding. Friday afternoon there will be a tour of the University of Louisville Medical School to which all registrants are invited. The joint dinner session of the society and the academy is scheduled for Friday, 7 p. m. Dr. Albert B. Sabin, Cincinnati, will preside. Dr. William A. Sodeman, Columbia, Mo., will deliver the presidential address of the society, "Our Future?" The presidential address of the academy, "Unfinished Business in Tropical Medicine," will be delivered by Dr. Meleney.

School Health Association Meets in New York.—The annual meeting of the American School Health Association will be held Nov. 8-13 at the Hotel New Yorker in New York, joint sessions with sections of the American Public Health Association being scheduled Tuesday to Friday. Dr. Guy N. Magness, University City, Mo., president, will present his report Monday, 11 a. m., immediately after a talk, entitled "Tuberculosis Case Finding in Schools," by Dr. William E. Ayling, Syracuse. Participating in the Monday afternoon program will be Dr. Edmund P. Fowler, New York, who will discuss "Conservation of Hearing in Schools" and Dr. Helen C. Newman, Chicago, who will speak on mental hygiene in the classroom. Monday, 8:30 p. m., Dr. Carl C. Fischer, Philadelphia, will address the school health services section on the role of the Advisory Health Council in the school health program, and Dr. Donald A. Dukelow, Chicago, and Fred V. Hein, Ph.D., A. M. A. consultants in school health, will give the "Preliminary Report of the Fourth National Conference on Physicians in Schools." The annual banquet will be held Thursday at 6:30 p. m. in the north ballroom, where the William A. Howe award will be bestowed on Dr. Charles C. Wilson, professor of education and public health, Yale University, New Haven, Conn., and greetings from the American Public Health Association will be presented by its executive secretary, Dr. Reginald M. Atwater, New York.

College of Cardiology Meets in Cleveland.—The fall meeting of the American College of Cardiology will be held at the Hotel Statler, Cleveland, Nov. 6-7. The speakers and their topics will be:

Philogenesis and Ontogenesis of Congenital Malformations of the Heart, Maurice Lev, Miami Beach, Fla.
Embryological Development of the Heart and Congenital Abnormalities of the Heart (two motion pictures); Cyanosis in Congenital Heart Disease (motion picture), Robert F. Rushmer, Seattle.
Hereditary Aspects of Congenital Heart Disease, Frank R. Hanrahan and Henry A. Zimmerman, Cleveland.
Life Expectancy of Congenital Heart Disease, Richard S. Gubner, Brooklyn.
Incidence of Congenital Cardiac Malformations, Sidney E. Blumenthal, New York.
Congenital Cardiac Anomalies Associated with Mongolism, Lotte Strauss, New York.
Patent Ductus Arteriosus with Reversal of Shunt, Samuel O. Sapin, New York.
Ectopia Cardis Reversa: A Very Rare Congenital Anomaly of the Heart, Bruno Z. Kisch, New York.
Present Status of Surgery for Pulmonic Stenosis, Robert P. Glover, Philadelphia.
Surgical Treatment of Coarctation of the Aorta, F. Henry Ellis and Oscar T. Clagett, Rochester, Minn.
Surgical Closure of Interventricular Septal Defect, Earle B. Kay, Cleveland.
Surgery of Interatrial Septal Defect, with Special Reference to the Use of a Mechanical Heart, F. Dewey Dodrill, Detroit.
Management of Interatrial Septal Defect, Joseph Gaglione and Henry A. Zimmerman, Cleveland.
Treatment of Infected Patent Ductus Arteriosus, Arthur S. W. Touroff, New York.

Admission is free for members and fellows of the college and for interns, residents, and medical students; registration for nonmembers, $3.

Military Surgeons Meet in Washington.—The Association of Military Surgeons of the United States will hold its 60th annual meeting at the Statler Hotel, Washington, D. C., Nov. 9-11, under the presidency of Rear Adm. Winchell McK. Craig (MC), U.S.N.R., Rochester, Minn. The following papers will be presented Monday morning in the Presidential Ballroom:

Recent Advances in Military Medicine, Major Gen. George E. Armstrong, Washington, D. C.
Military Medicine of the Future, Rear Adm. H. Lamont Pugh, Washington, D. C.
Military Medicine and the Air Force, Major Gen. Harry G. Armstrong, Washington, D. C.
Military Medicine and the U. S. Public Health Service, Surgeon General Leonard A. Scheele, Washington, D. C.
Current Medical and Hospital Program of the Veterans Administration, Vice Adm. Joel T. Boone, Washington, D. C.

At 12:30 p. m. Col. Nell Wickliffe (WMSC), U. S. Army, chief, Women's Medical Specialists Corps, Department of the Army, will present a paper, "Recent Contributions of Women Medical Specialists to Military Medicine," after which Colonel Jack Buell (MSC), U.S.A.F., special projects officer, Office of the Surgeon General, Department of the Air Force, will describe "Recent Contributions of Medical Service Corps to Military Medicine." A panel meeting will be held in the Federal Room Wednesday, 1:30 p. m., with the following program: (1) "Medical Manpower—Needs and Utilization," Dr. Edward J. McCormick, Toledo, Ohio, A. M. A. President; (2) "Medical Manpower and Utilization—OSD Viewpoint," Dr. Melvin A. Casberg, Washington, D. C., assistant to the Secretary of Defense (health and medical); and (3) "Federal Health Personnel—Needs and Utilization," Brig. Gen. Howard A. Rusk (MC), U.S.A.F., New York, chairman, Health Resources Advisory Committee. Panel discussants include Drs. Morris Fishbein, and Paul R. Hawley, Chicago, Herbert Ramsey, Washington, D. C., Chester S. Keefer, Boston, Walter B. Martin, Norfolk, Va., A. M. A. President-Elect, and Major Gen. Howard McC. Snyder (MC), U. S. Army, Washington, D. C., physician to the president.

Occupational Therapists Meet in Houston.—The American Occupational Therapy Association will hold its annual convention at the Shamrock Hotel, Houston, Texas, Nov. 13-20. A preconference institute on research in occupational therapy will be given Monday, 9 a. m. Dr. Ben L. Boynton, Houston, Texas, will serve as moderator for a panel on evaluation of suggested research topics. Dr. Stanley W. Olson, dean, Baylor University College of Medicine, Houston, will give the address of welcome during the general program Tuesday afternoon, which has as its subject, "Refining Our Resources." Dr. Boynton's speech on Wednesday morning will be followed by "Present Treatment in Tuberculosis" by Dr. William S. Schwartz, Oteen, N. C. Lt. Col. Charles D. Shields, chief, physical medicine service, Brooke Army Hospital, Fort Sam Houston, San Antonio, Texas, will be moderator for the Wednesday afternoon session when current trends in the treatment of burns will be discussed by a representative of the surgical research unit of the hospital. Thursday morning Dr. Eugene C. McDanald, Galveston, Texas, will have as his subject, "Group Work Practices—Their Application in O. T." Moderator for the Thursday afternoon session will be Dr. Oscar O. Selke Jr., Houston, Texas. Dr. William S. Fields, Houston, Texas, will present "Practical Considerations in the Treatment of Epilepsy," and Dr. Margaret Watkins, Dallas, Texas, will speak on trends in the treatment of the cerebral palsied. Dr. Warren T. Brown, Houston, Texas, will act as moderator for the closing program Friday, 9 a. m. to 12 noon, at which "Problems and Functions of a Respiratory Center" will be presented by Dr. William A. Spencer (and staff), Houston, Texas.

Public Health Association Meeting in New York.—The American Public Health Association and 40 related groups will meet in New York Nov. 9-13. The majority of the sessions will be held in the Statler Hotel and the New Yorker. The registration fee is $4. A panel on world health and the American people is scheduled for the opening day, when a report on the state of the world's health will be given by World Health Organization representatives at a luncheon. The first general session will convene at the Hotel Statler, Wednesday, 8:30 p. m. Addresses of welcome will be given by Drs. John F. Mahoney, New York, and Herman E. Hilleboe, Albany, commissioner of health of New York City and New York State, respectively. Greetings from Scotland will be offered by Sir Andrew Davidson. Dr. Wilton L. Halverson, San Francisco, will deliver the presidential address. The second general session, which will be held Thursday, 3 p. m., will have as speaker Dr. T. Duckett Jones, New York, whose topic will be "Research in the Service of Health." Monday, 9:30 a. m., Dr. Arthur M. Sutherland, New York, will discuss "Psychological Impact of Cancer and Cancer Surgery," and Dr. Walter E. Batchelder, Providence, R. I., will present "Current Emphasis in the Cancer Control Program of the American College of Surgeons" for the Public Health Cancer Association. The Conference of Professors of Preventive Medicine will have a luncheon and afternoon session Monday in the Panel Room, New Yorker Hotel. Dr. R. Percy Vivian, Montreal, Canada, will speak on advances in the teaching of preventive medicine (intramural) and Dr. Henry J. Bakst, Boston, will present extramural advances. Dr. John P. Hubbard, Philadelphia, will give "Highlights of the World Conference on Medical Education: Section on Preventive and Social Medicine." Tuesday morning speakers before the industrial hygiene section will include Drs. Joseph E. Martin Jr., Elkins, W. Va., Herbert K. Abrams, Berkeley, Calif., and Irving R. Tabershaw, Forest Hill, N. Y. "Training Physicians for School Health Service" will be considered by Drs. Robert W. Culbert Jr. and Harold Jacobziner, New York, and Philip Ollstein, Brooklyn, for the school health section at the Statler Hotel. Tuesday afternoon the epidemiology section will hear Dr. James K. Shafer, Washington, D. C., outline "Ten Years of Progress in the Treatment of Syphilis," and Drs. Theodore Rosenthal and Abraham Oppenheim, New York, discuss "Epidemiology of Cancer." Friday morning Dr. George G. Reader, New York, will talk on organization and development of a comprehensive care program before the medical care section, and Dr. George A. Silver, New York, will give "The Family Health Maintenance Demonstration." Among the participants in the second special session, which will close the meetings Friday, 2:30 p. m., in the ballroom of the Statler with a panel entitled "Public Health—Product of Community Action," will be Drs. Reginald M. Atwater, New York, moderator, Harold M. Erickson, Portland, Ore., John D. Porterfield, Columbus, Ohio, and George Rosen and Samuel M. Wishik, New York.

MEETINGS

AMERICAN MEDICAL ASSOCIATION: Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

1953 Clinical Meeting, St. Louis, Dec 1-4.

1954 Annual Meeting, San Francisco, June 21-25.

1954 Clinical Meeting, Miami, Florida, Nov. 30-Dec. 3.

1955 Annual Meeting, Atlantic City, N. J., June 6-10.

1955 Clinical Meeting, Boston, Nov. 29-Dec. 2.

American Academy of Dermatology and Syphilology, Palmer House, Chicago, Dec. 5-10. Dr. John E. Rauschkolb, P. O. Box 6565, Cleveland 1, Secretary.

American Academy of Obstetrics and Gynecology, Netherland Plaza Hotel, Cincinnati, Dec. 14-16. Dr. C. Paul Hodgkinson, 116 South Michigan Blvd., Chicago 3, Secretary.

American Academy of Tropical Medicine, Brown Hotel, Louisville, Ky., Nov. 12-14. Dr. E. Harold Hinman, University of Puerto Rico, School of Medicine, San Juan 22, P. R., Secretary.

American Public Health Association, Hotel New Yorker and Hotel Statler, New York, Nov. 9-13. Dr. Reginald M. Atwater, 1790 Broadway, New York 19, Executive Secretary.

American School Health Association, Hotel New Yorker, New York, Nov. 9-13. Dr. A. O. DeWeese, 515 East Main St., Kent, Ohio, Secretary.

American Society of Tropical Medicine and Hygiene, Brown Hotel, Louisville, Ky., Nov. 12-14. Dr. John E. Larsh Jr., University of North Carolina, School of Public Health, Chapel Hill, N. C., Secretary.

Association of Military Surgeons of the United States, Hotel Statler, Washington, D. C., Nov. 8-11. Dr. R. R. Sayers, Armed Forces Institute of Pathology, Washington 25, D. C., Secretary.

Association for Research in Nervous and Mental Diseases, Hotel Roosevelt, New York, Dec. 11-12. Dr. Clarence C. Hare, 710 West 168th St., New York 32, Secretary.

Conference of Public Health Veterinarians, Hotel New Yorker, New York, Nov. 9. Dr. James Lieberman, U. S. Public Health Service, Washington 25, D. C., Secretary.

Congress of Neurological Surgeons, Roosevelt Hotel, New Orleans, Nov. 12-14. Dr. B. W. Cannon, 1092 Madison Ave., Memphis, Tenn., Secretary.

Inter-Society Cytology Council, Philadelphia, Nov. 19-20. Dr. Paul F. Fletcher, 634 North Grand Blvd., St. Louis 3, Secretary.

National Society for Crippled Children and Adults, Palmer House, Chicago, Nov 12-14. Mr. Lawrence J. Linck, 11 South LaSalle St., Chicago 3, Secretary.

National Society for the Prevention of Blindness, New York, Dec. 18. Dr. Franklin M. Foote, 1790 Broadway, New York 19, Executive Director.

North Pacific Surgical Association, Victoria, B. C., Nov. 20-21. Dr. John A. Duncan, 509 Olive Way, Seattle, Secretary.

Radiological Society of North America, Palmer House, Chicago, Dec. 13-18. Dr. Donald S. Childs, 713 East Genesee St., Syracuse 2, N. Y., Secretary.

Regional Meetings, American College of Physicians:

- Michigan, H. H. Rackham Auditorium, Ann Arbor, Dec. 5. Dr. H. Marvin Pollard, 1313 East Ann St., Ann Arbor, Governor.
- Midwest—Ill., Ind., Iowa, Minn., Wis.—Hotel Schroeder, Milwaukee, Nov. 21. Dr Francis D. Murphy, 536 West Wisconsin Ave., Milwaukee 3, Chairman.
- North Carolina, Chapel Hill, Dec. 3. Dr. Elbert L. Persons, Duke Hospital, Durham, Governor.

Regional Meetings, American Rheumatism Association:

- Ohio and Western Pennsylvania, Mayflower Hotel, Akron, Ohio, Nov. 11. Dr. Roger Q. Davis, 1405 Goodyear Blvd., Akron 5, Ohio, Chairman.

Southern California Psychiatric Society, Hotel Statler, Los Angeles, Nov. 14. Dr. Jerome M. Kummer, P. O. Box 305, Santa Monica, Secretary.

Southern Surgical Association, The Homestead, Hot Springs, Va., Dec. 8-10. Dr. John C. Burch, 2112 West End Ave., Nashville 5, Tenn., Secretary.

Western Surgical Association, The Drake, Chicago, Dec. 3-5. Dr. Michael Mason, 154 East Erie St., Chicago 11, Secretary.

FOREIGN

Association of Surgeons of Great Britain and Ireland, Leeds, England, May 13-15, 1954. Dr. Henry W. S. Wright, 45 Lincoln's Inn Fields, London W.C.2, England, Honorary Secretary.

British Medical Association, Glasgow, Scotland, July 1-9, 1954. Dr. A. MacRae, B.M.A. House, Tavistock Square, London, W.C.1, England, Secretary.

Canadian Medical Association, Vancouver, B. C., Canada, June 18-22, 1954. Dr. T. C. Routley, 135 St. Clair Ave. W., Toronto 5, Ont., Canada, General Secretary.

Conference of International Union Against Tuberculosis, Madrid, Spain, Sept. 26-Oct. 2, 1954. Secretariat, Escuela de Tisiologia, Ciudad Universitaria, Madrid, Spain.

Congress of International Association for the Prevention of Blindness, New York, N. Y., U. S. A., Sept. 12-17, 1954. Professor Franceschetti, 2 Avenue Mirmot, Geneva, Switzerland, Secretary-General.

Congress of International Society of Surgery, Paris, France, May 21-22, 1954. Dr. L. Dejardin, 141, rue Belliard, Brussels, Belgium, General Secretary.

International Cancer Congress, Sao Paulo, Brazil, July 23-29, 1954. Prof. A. Prudente, 171 rua Benjamin Constante, Sao Paulo, Brazil, President.

International Conference on Thrombosis and Embolism, Basle, Switzerland, July 15-19, 1954. Dr. W. Merz, Chief Medical Officer, Gynecological Clinic, University of Basle, Basle, Switzerland, Hon. Secretary.

International Congress of Clinical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Dr. Robert A. Moore, Washington University School of Medicine, St. Louis 10, Missouri, U. S. A., Chairman, Committee on Arrangements.

International Congress on Group Psychotherapy, Toronto, Ont., Canada, Aug. 12-14, 1954. Dr. J. L. Moreno, Room 327, 101 Park Ave., New York 17, N. Y., U. S. A., Director of Organizing Committee.

International Congress of Hematology, Paris, Sept. 6-11, 1954. Dr. Jean Bernard, 86 rue d'Assas, Paris 6ᵉ, France, Secretary.

International Congress of the History of Medicine, Rome and Salerno, Italy, Sept. 13-20, 1954. For information write: Segreteria XIV Congresso Internazionale di Storia della Medicina, Instituto di Storia della Medicine, Citta Universitaria, Rome, Italy.

International Congress of Hydroclimatism and Thalassotherapy, Dubrovnik, Yugoslavia, May 8-16, 1954. Prof. C. Plavsic, Zeleni Venac 1, Belgrade, Yugoslavia, Secretary General.

International Congress of Industrial Medicine, Naples, Italy, Sept. 13-19, 1954. Professor Scipione Caccuri, Director, Institute of Industrial Medicine Policlinico, Naples, Italy, Chairman, Organizing Committee.

International Congress of Internal Medicine, Stockholm, Sweden, Sept. 15-18, 1954. Professor Anders Kristenson, Karolinska Sjukhuset, Stockholm 60, Sweden, Secretary-General.

International Congress of International College of Surgeons, Sao Paulo, Brazil, April 26-May 2, 1954. Dr. Max Thorek, 1516 Lake Shore Drive, Chicago, Illinois, U. S. A., Secretary-General.

International Congress on Mental Health, University of Toronto, Toronto, Ontario, Canada, Aug. 14-21, 1954. For information write: Executive Officer, International Congress on Mental Health, 111 St. George St., Toronto, Ontario, Canada.

International Congress of Nutrition, Amsterdam, Netherlands, Sept. 14-18, 1954. For information write: Dr. M. van Eekelen, Centraal Instituut voor Voedingsonderzoek T.N.O., 61 Catharynesingel, Utrecht, Netherlands.

International Congress on Obstetrics and Gynecology, Geneva, Switzerland, July 26-31, 1954. Dr. H. de Watteville, Maternité Hôpital Cantonal, Geneva, Switzerland, President.

International Congress of Ophthalmology, University of Montreal and McGill University, Montreal, Canada, Sept. 10-11, 1954, and Waldorf-Astoria, New York, N. Y., U. S. A., Sept. 12-17, 1954. Dr. William L. Benedict, 100 First Avenue Building, Rochester, Minnesota, U. S. A., Secretary-General.

International Congress of Orthopedic Surgery and Traumatology, Berne, Switzerland, Aug. 30-Sept. 3, 1954. For information write: Professor M. Dubois, Isle-Hospital, Berne, Switzerland.

International Congress of Psychology, Montreal, Canada, June 7-12, 1954. For information write: Prof. H. S. Langfeld, International Union of Scientific Psychology, Eno Hall, Princeton University, Princeton, N. J., U. S. A.

International Congress for Psychotherapy, Zurich, Switzerland, July 21-24, 1954. Dr. H. K. Fierz, Theaterstrasse 12, Zurich 1, Switzerland, Secretary General.

International Gerontological Congress, London and Oxford, England, July 12-22, 1954. Prof. R. E. Tunbridge, General Infirmary, Department of Medicine, The University, Leeds, England, President.

International Poliomyelitis Congress, Rome, Italy, Sept. 6-10, 1954. Mr. Stanley E. Henwood, 120 Broadway, New York 5, N. Y., U. S. A., Executive Secretary.

International Society of Blood Transfusion, Paris, France, Sept. 12-19, 1954. For information write: Colonel Julliard, Societe Internationale de Transfusion Sanguine, 53 Boulevard Diderot, Paris 12ᵉ, France.

International Society for Cell Biology, Leiden, Netherlands, Sept. 2-9, 1954. Professor Peter J. Gaillard, University of Leiden, Leiden, Netherlands, Secretary.

International Society of Geographical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Professor Fred C. Roulet, Hebelstrasse 24, Basle, Switzerland, Secretary-General.

Journees Medicales, Paris, France, April 21-25, 1954. For information write: Secretariat of the Journees, 12, rue Pierre-Geofroix, Colombes (Seine) France.

Latin American Congress of Otorhinolaryngology, Caracas, Venezuela, Feb. 21-25, 1954. Dr. Victorino Marquez Reveron, Centro, Medico, Caracas, Venezuela, Secretary-General.

Pacific Science Congress, Quezon City and Manila, Philippines, Nov. 16-28. Dr. Patrocinio Valenzuela, College of Pharmacy, University of the Philippines, Quezon City, Philippines, Secretary-General.

Pan American Congress of Otorhinolaryngology and Bronchoesophagology, Mexico, D.F., Mexico, Feb. 28-March 4, 1954. Dr. Pedro Hernandez Gonzalo, 8 No. 358, Vedado, Havana, Cuba, General Secretary.

Pan American Medical Association, International Medical Cruise Congress, S. S. Nieuw Amsterdam, Jan. 6-22, 1954. Dr. Joseph J. Eller, 745 Fifth Avenue, New York 22, N. Y., U. S. A., Executive Director.

Pan-Pacific Surgical Congress, Honolulu, Hawaii, Oct. 7-18, 1954. Dr. F. J. Pinkerton, Suite 7, Young Bldg., Honolulu 13, Hawaii, Director General.

Persian Gulf Medical Society, Dhahran, Saudi Arabia, Dec. 7-8. Dr. N. J. Conan Jr., Department of Internal Medicine, Arabian American Oil Company, Dhahran, Saudi Arabia, Secretary.

Sectional Meeting, American College of Surgeons, London, England, May 17-19, 1954. Dr. Michael L. Mason, 40 East Erie St., Chicago 11, Ill., U. S. A., Secretary.

South American Congress of Angiology, Sao Paulo, Brazil, July 1954. For information write: Dr. Rubens Carlos Mayall, Rua Senador Vergueiro 73, Rio de Janeiro, Brazil, S. A.

World Congress of Cardiology, Washington, D. C., and Bethesda, Md., U. S. A., Sept. 12-17, 1954. Dr. L. W. Gorham, 44 East 23d St., New York 10, N. Y., U. S. A., Secretary-General.

World Congress of International Society for the Welfare of Cripples, The Hague, Netherlands, Sept. 13-17, 1954. For information write: D. C. Schaap, Centrale Vereniging, Apeldoorschweg 51, Arnhem, Netherlands.

World Federation of Occupational Therapists, Edinburgh, Scotland, August 17, 1954.

World Medical Association, Rome, Italy, Sept. 26-Oct. 2, 1954. Dr. Louis H. Bauer, 345 East 46th St., New York 17, N. Y., U. S. A., Secretary-General.

EXAMINATIONS AND LICENSURE

EXAMINING BOARDS IN SPECIALTIES

American Board of Anesthesiology: *Written.* Various Centers, July 16, 1954. Sec., Dr. Curtiss B. Hickox, 80 Seymour St., Hartford 15.

American Board of Internal Medicine: *Oral.* Chicago, Nov. 30-Dec. 2. The closing date for acceptance of applications was April 1. *Written.* October 19. The closing date for acceptance of applications was May 1. Exec Sec.-Treas, Dr. William A. Werrell, 1 West Main St., Madison 3.

American Board of Neurology and Psychiatry: *Psychiatry and Neurology.* Dec. 14-15. Applications no longer being accepted. Chicago, April 29-30. Final date for filing application is Feb. 1. Sec., Dr. David A. Boyd, Jr., 102-110 Second Ave., S.W., Rochester, Minn.

American Board of Obstetrics and Gynecology: Written examination and review of case histories for all candidates will be held in various cities of the United States, Canada, and military centers outside the continental United States on Feb. 5. Case abstracts are to be sent by the candidate to the Secretary as soon as possible after receiving notification of eligibility to the Part I written examination. Application for reexamination in Part II must be made prior to Feb. 1 of any year. Sec., Dr. Robert L. Faulkner, 2105 Adelbert Road, Cleveland 6.

American Board of Ophthalmology: *Written.* Various Centers, January 25-26, 1954. Final date for filing applications was July 1. Sec., Dr. Edwin B. Dunphy, 56 Ivie Road, Cape Cottage, Maine.

American Board of Orthopaedic Surgery: *Part II.* Chicago, Jan. 20-22. Final date for filing application was August 15. Final date for filing application for Part I is Nov. 30. Sec., Dr. Harold A. Sofield, 122 S. Michigan Ave., Chicago 3.

American Board of Pediatrics: *Oral.* Indianapolis, Dec. 4-6. Exec. Sec., Dr. John McK. Mitchell, 6 Cushman Road, Rosemont, Pa.

American Board of Radiology: *Oral. Radiology, Roentgenology, Diagnostic Roentgenology and Therapeutic Radiology.* Chicago, Dec. 6-11. Final date for filing application was July 1. Sec., Dr. B. R. Kirklin, 102-110 Second Ave. S.W., Rochester, Minn.

DEATHS

Swift, Homer Fordyce ⊕ New York City; born in Paines Hollow, N. Y., May 5, 1881; University and Bellevue Hospital Medical College, New York, 1906; formerly assistant in pathology and instructor in dermatology at his alma mater; associate professor of medicine at Columbia University College of Physicians and Surgeons, 1914-1917, and Cornell University Medical College, 1917-1919 (on leave); joined the Rockefeller Institute in 1919 as an associate member, was made a member in 1922 and served in this capacity until 1946 when he became a member emeritus; served in France during World War I and was a member of the American Red Cross Trench Fever Commission; consultant to the Secretary of War during World War II; chairman of the general advisory committee for the cardiac program of the New York State Department of Health since 1941; chairman of the American Council on Rheumatic Fever, 1945-1946; member of the Association of American Physicians, American Society for Clinical Investigation of which he was president in 1928, New York Academy of Medicine, Society of American Bacteriologists, American Society of Immunology and the Harvey Society, serving as its president in 1925-1926; in May, 1953, the American Rheumatism Association bestowed on him its distinguished service award for research in rheumatic fever; a member of the Alpha Tau Omega, Nu Sigma Nu, Theta Nu Epsilon and Alpha Omega Alpha; fellow of the American Association for the Advancement of Science; assistant resident physician, 1910-1912, resident physician, 1912-1914, and physician to the Hospital of Rockefeller Institute for Medical Research, 1942-1946, when he became an emeritus member; member of the Council of the New York University from 1942 to 1946; member of the board of directors of the Russell Sage Institute of Pathology from 1923 to 1948; Kober lecturer, Georgetown University Medical School, Washington, D. C., in 1949; contributor to "Forchheimer's Therapeusis of Internal Diseases," "Musser and Kelly's Practical Treatment," "Nelson's Loose-Leaf Medicine," "Oxford Loose-Leaf Medicine," "Cecil's Text-Book of Medicine," and "Mycotic Infections of Men" (Dubos); received the honorary doctor of science degree from New York University in 1931; recipient of medallion of meritorious service award given by the Alumni Federation of New York University in 1933; died Sept. 24, aged 72.

Golub, Jacob Joshua ⊕ New York City; born in Russia July 25, 1891; Boston University School of Medicine, 1915; medical director and executive vice-president of the Hospital for Joint Diseases, for 23 years, from 1929 until his retirement in March, 1952; was in the field of hospital administration and hospital planning for 36 years; physician in the U. S. Public Health Service from 1918 to 1920; medical and health commissioner for Volhynia, Ukraine, of the American Joint Distribution Committee from 1921 to 1923 when he went to Poland in a similar capacity; served on other overseas missions for the committee, and at the time of his death was chairman of its health committee for war stricken areas; in 1924-1925 and again in 1928-1929 medical director of the Beth Moses Hospital in Brooklyn; assistant director of the Mount Sinai Hospital, 1926-1927; consultant in planning of the Rothschild-Hadassah Hospital and Hebrew University Medical School in Jerusalem, Palestine; since 1939 a member of the New York Saratoga Springs Authority and Commission; vice-president of the Hospital Council of Greater New York and for several years was the chairman of the master plan committee; member of the council on hospital planning of the American Hospital Association; member of the New York State Committee of the National Association for Practical Nurse Education, New York Academy of Medicine, American Public Health Association and the New York Hospital Association; charter member of the American Association for Hospital Consultants; died in Mount Sinai Hospital Sept. 23, aged 62.

Andronis, Nicholas, Galveston, Texas; University of Texas School of Medicine, Galveston, 1918; formerly on the faculty of his alma mater; served as secretary of the Galveston County Medical Society; for many years associated with the U. S. Public Health Service; died in Houston May 19, aged 62, of cancer of larynx with metastasis to regional lymph nodes and liver.

Bean, John Lacy, Vinita, Okla.; St. Louis College of Physicians and Surgeons, 1899; died Sept. 5, aged 78, of cerebral thrombosis and fracture of hip.

Black, Allan Brown, Paulsboro, N. J.; Hahnemann Medical College and Hospital of Philadelphia, 1896; died Aug. 26, aged 78, following an operation for adenocarcinoma of the stomach.

Bobo, Arlington Henry ⊕ Covin, Ala.; University of Alabama School of Medicine, Mobile, 1911; formerly practiced in Demopolis, where he was director of the Commercial National Bank; died in McNease and Robertson Hospital in Fayette, Sept. 1, aged 67.

Brown, Homer Scott ⊕ Sutton, W. Va.; College of Physicians and Surgeons, Baltimore, 1908; died Sept. 24, aged 72, of a heart attack.

Brummette, James Sutton ⊕ Lieut. Col., U. S. Army, retired, Orlando, Fla.; University of Louisville (Ky.) Medical Department, 1909; served during World Wars I and II; retired March 31, 1942; died in the Walter Reed Army Hospital, Washington, D. C., May 20, aged 70, of carcinoma of the bladder.

Clymer, George, Longmeadow, Mass.; Harvard Medical School, Boston, 1911; member of the New England Society of Psychiatry; served on the staff of the Massachusetts General Hospital in Boston; died Aug. 4, aged 70, of cancer of the liver.

Cook, Frances Helen ⊕ Chicago; Bennett Medical College, Chicago, 1911; died in Women and Children's Hospital Sept. 29, aged 80, of carcinoma of the breast.

Curtis, Alfred Lee, Atlanta, Ga.; Atlanta Medical College, 1891; also a druggist; died Aug. 28, aged 83, of uremia.

Dayton, George Farbridge ⊕ New York City; Friedrich-Wilhelms-Universität Medizinische Fakultät, Berlin, Germany, 1909; served on the staffs of the Mount Sinai and Lincoln hospitals; died Sept. 21, aged 65, of embolism.

Dewey, Leonard Adolph ⊕ Seattle; University of Nebraska College of Medicine, Omaha, 1928; specialist certified by the American Board of Preventive Medicine and Public Health; served during World War II; chief of the division of epidemiology and venereal disease control, Washington State Department of Health; formerly epidemiologist for the New Mexico Board of Health; died in Swedish Hospital Sept. 8, aged 50, of amyotrophic lateral sclerosis.

Steele, Edson Hun ⊕ Los Angeles; Albany (N.Y.) Medical College, 1919; associate clinical professor of psychiatry at College of Medical Evangelists; specialist certified by the American Board of Psychiatry and Neurology; fellow of the American College of Physicians; member of the American Psychiatric Association; served during World War II; affiliated with Los Angeles County Psychopathic Hospital; died June 23, aged 58, of subarachnoid hemorrhage.

Stewart, John Noel ⊕ Santa Maria, Calif.; University of Nebraska College of Medicine, Omaha, 1932; died July 18, aged 44, of carcinoma of the pancreas.

Worley, John R. ⊕ Dallas, Texas; University Medical College of Kansas City, Mo., 1909; died June 26, aged 74, of cerebral thrombosis.

⊕ Indicates Member of the American Medical Association.

GOVERNMENT SERVICES

ARMY

Colonel Ash Receives Award.—At the annual meeting of the American Society of Clinical Pathologists in Chicago, Oct. 12-16, Col. James E. Ash (MC) retired, Washington, D. C., received the Ward Burdick award, a gold medal in memory of Dr. Ward Burdick, first secretary of the society, who died in office in 1928. This award is bestowed on the person judged to have made outstanding contributions to clinical pathology, and it was presented to Dr. Ash for his work in establishing an educational program for tumor and tissue diagnosis, which has been of great aid to clinical pathologists. After a meeting with Dr. Frederick Lamb of Davenport, Iowa, Dr. Ash, then curator of the Army Medical Museum, gave consideration to the problems that Dr. Lamb outlined and suggested that the museum might be used for preparation of material to be sent to pathologists. Dr. Ash was instrumental in building up the annual slide seminars now conducted in each state, which are credited with improving the diagnostic ability of pathologists. Since the institution of this educational program, membership in the society has grown from 15 to 900 members in 20 years.

Staff Program at Medical Center in Texas.—Dr. James G. Golseth, associate professor of physical medicine, University of Southern California, Los Angeles, and a specialist in electronics as applied to that field, was the principal speaker before the staff at the Brooke Army Medical Center, Fort Sam Houston, Texas, on Oct. 15. His subject was the problem of peripheral nerve and anterior horn cell lesions in military medicine. Dr. Golseth discussed the use of electromyography in military medicine with special application to peripheral nerve lesions. Lieut. Col. John H. Kuitert, chief of the physical medicine service at Brooke Army Medical Center, opened the program with statistics and other data establishing the problem. Lieut. Col. George J. Hayes, chief of the hospital's neurosurgery section, discussed the emergency management of injuries of the extremities with peripheral nerve involvement.

Personal.—Col. Ernest A. Brav of Philadelphia was recently named chief of the Walter Reed Army Hospital orthopedic service in Washington, D. C. For the past three years, he served in the same position at Letterman Army Hospital, San Francisco, and during that time, he also was an assistant professor of orthopedic surgery at Stanford University.——Col. Edwin S. Wallace (MC), has been named executive officer at Brooke Army Medical Center, Fort Sam Houston, Texas.

NAVY

Surgeon General's Symposium.—The Surgeon General's Symposium for senior officers of the medical department will be held at the National Naval Medical Center, Bethesda, Md., Nov. 5-7. The symposium affords an opportunity for officers commanding the Naval medical department facilities throughout the world to meet and discuss problems associated with the efficient operation of the Navy medical department. Personnel procurement, finance, hospital administration, planning and logistics, the problems of a current and recurrent nature associated with the operation of a military medical department, and the latest developments in military medicine will be presented. The Assistant Secretary of Defense for Health and Welfare, Dr. Melvin A. Casberg, the Surgeon General, Rear Adm. Lamont Pugh, the Commanding Officer, National Naval Medical Center, Rear Adm. Leslie O. Stone, the assistant chief, Bureau of Medicine and Surgery, Rear Adm. Clarence J. Brown, and Rear Adm. Daniel W. Ryan, Dental Corps, chief of the dental division, among others, will participate. Panel discussions of the three day symposium will be held during the afternoon sessions.

PUBLIC HEALTH SERVICE

Personal.—Dr. Howard A. Rusk, chairman, Department of Rehabilitation and Physical Medicine, New York University College of Medicine, has been appointed to serve on the National Advisory Arthritis and Metabolic Diseases Council, Surgeon General Scheele announced Oct. 16.

VETERANS ADMINISTRATION

Grants for Wheelchair Homes for Veterans.—Federal grants for wheelchair homes totaling more than 29 million dollars have been made to 3,123 seriously disabled veterans, including those of the Korean conflict, the Veterans Administration announces. Another 1,735 veterans have received preliminary approval for such grants. All veterans of war or peacetime service since 1898 who cannot get about without the aid of such devices as wheelchairs, braces, crutches, and canes, may be entitled to these special grants. These veterans must be entitled to compensation for permanent and total service-connected disability for the loss, or loss of use, of both legs due to certain specified conditions. The VA defrays 50% of the cost of wheelchair homes for eligible veterans up to a maximum of $10,000 under grants first authorized by Congress in 1948. Such special features as ramps, doorways that will accommodate a wheelchair, special bathroom fixtures, and exercise rooms equipped to meet the needs of the individuals are incorporated into these homes. The grants may be used in several ways. The veteran may buy a lot and build on it, remodel his present home to suit his needs, or apply the grant against his mortgage if he already has a suitable home. As of Aug. 31, a total of 6,167 veterans had made applications for the grant. The VA gave preliminary approval to 4,858.

Residencies Available.—Vacancies are available for residents in head and neck surgery and otolaryngology at the Veterans Administration Hospital, 130 West Kingsbridge Road, Bronx 68, New York. The residency is approved for three years and is supervised by consultants from affiliated medical schools. A basic science course is included in this program. Instruction during the three years also includes endoscopy, allergy and plastic surgery of the nose. Salaries range from $2,640 to $3,300 per annum. Veterans receive preference, but applicants need not be veterans. For information write to Liaison Officer, Deans Committee, Veterans Administration Hospital, 130 West Kingsbridge Road, Bronx 68, N. Y.

Geriatrics Symposium.—A two day geriatrics symposium sponsored by the Veterans Administration and the Peninsula Academy of Medicine was held at Chamberlin Hotel, Old Point Comfort, Virginia, Sept. 24-25. Among those on the program were Drs. Edward J. Stieglitz, Washington, D. C.; Lloyd Thompson, Winston-Salem, N. C.; George M. Piersol, Philadelphia; Walter O. Klingman, Charlottesville, Va.; Reno R. Porter, Richmond, Va.; and I. Jay Brightman, Albany, N. Y. The program on Sept. 25 was comprised of contributions of physical medicine and vocational rehabilitation, cardiovascular conditions in the aged, and certain surgical aspects, including management of amputees.

Personal.—Dr. Claud E. Carter has been appointed manager of the Veterans Administration Hospital at Fort Bayard, N. Mex. Dr. Carter was formerly chief of professional services at the 222-bed tuberculosis hospital at Fort Bayard.

FOREIGN LETTERS

BRAZIL

Surgery of Duodenal Ulcers of the Posterior Wall.—There are still several problems related to the surgical treatment of the duodenal ulcers penetrating into the capsule or even the parenchyma of the pancreas. In order to contribute to a better understanding of these problems, Dr. Piragibe Nogueira and Dr. Luis Barker, assistant professors of clinical surgery at the São Paulo State University, dissected 17 of 22 specimens sent to them by the department of pathology and reported their findings in *Revista Brasileira de Medicina* (42:405, 1953). They pointed out that the dissection of the posterior wall of the duodenum below the ulcer's crater should be limited to 1 cm. or a little more. This is because the nutrition of the duodenum, from the aboral half of its first portion, depends exclusively on vessels, well separated and not forming an anastomotic net, that originate at the duodenopancreatic arcades and penetrate into the duodenum. The dissection should be made between the submucous and muscular layers, because by this means it is performed in the thickness of the posterior duodenal wall. This dissection is easily performed, avoids trauma of the pancreas, and keeps far from the common duct and the accessory pancreatic duct. Besides, it has the great advantage of avoiding the ligature of any of the two arteries of the upper pedicle (branches of the gastroduodenal artery). This opinion is based on their finding, in the 17 dissections they have performed, that frequently there is a marked predominance of the arteries of the upper pedicle in the arterial nutrition of the duodenum. The predominance was of such a degree that in 4 out of 17 cases the ligature of the anterior artery of the upper pedicle would cause circulatory deficiency in the first and second portions and even in a part of the, third portion, reducing blood supply.

The authors believe that many patients reported as having had acute pancreatitis who died in the immediate postoperative period of extensive and deep penetrating duodenal ulcers had necrosis caused by the ligature of one or both arteries of the upper pedicle in the presence of a limited blood supply to the lower pedicle. During their study they found out that necrosis may be caused either by the small diameter of the arteries of the lower pedicle or by the absence of arcades and sufficient anastomoses between the two pedicles. This fact is in favor of the submucous dissection procedure, which protects the branches of the gastroduodenal artery.

Improvements in Indications for Pneumonolysis.—Drs. Octavio Nebias, E. J. Zerbini, and B. Fleury de Oliveira reported to the Associação Paulista de Medicina on improvements in the indications for pneumonolysis (Jacobeus' operation). In their practice at the São Luis Gonzaga Hospital of Jaçanã, São Paulo, they used the operation from 1936 to 1951 in a total of 1,882 cases. Until 1941, every pleural adhesion was considered an indication for cautery regardless of the kind of lung collapse and the evolution of the tuberculous lesion. The operation would be performed as soon as possible and the number, breadth, and shape of the adhesions were never contraindications for their section. Under these conditions, 664 operations were performed, with 64.8% good results and 35.2% fair or bad results. The following complications were observed: pleural effusion, 28%; pleural symphysis, 13.3%; empyema, 7.5%; and bleeding, 5.7%. To improve these results, some modifications were introduced in the indications for pneumothorax and cautery pneumonolysis. The cortical and insufflated cavities as well as the strong and large pleural adhesions were not considered indications for pneumonolysis and the operation was not performed unless the evolution of the pulmonary lesion could be evaluated. In 200 consecutive cases of this second group, 73.5% obtained good results and 26.5% fair and bad results, with the following complications: pleural effusion 16%, pleural symphysis 2.5%, and hemorrhage, 3%.

Pathogenesis of Inguinal Hernia.—Several papers in the medical literature on the cause of inguinal hernia have suggested a definite relationship between this condition and some modification of the pelvic shape. Drs. Fabio S. Goffi, Guilherme M. Leite, and P. Lacerda Pinto, of the department of experimental surgery, São Paulo State University, published in *Revista Paulista de Medicina* (43:1, 1953) a study on 76 men in whom measurements of the pelvic diameters were made. These men were (1) patients with indirect inguinal hernia (34); (2) patients with direct inguinal hernia (21); and (3) patients without inguinal hernia (23). The results were studied statistically by means of the *t* Student's test, no significant difference having been found between the length of each diameter in those three groups. Measurements of the level of insertion of the lower fibers of the obliquus internus muscle were taken on patients with inguinal hernia who were operated on. There was no significant difference in the level of origin of the lowest fibers from the inguinal ligament in the two groups with direct or indirect hernia. However, there was a significant difference in the levels of the medial insertion of the lowermost fibers of the obliquus internus muscle. In the patients with direct hernia, that level was higher than in patients with external oblique hernia.

Eosinophilic Granuloma of the Skin.—Dr. Jorge Lobo, of the University of Recife, Pernambuco, described a case of eosinophilic granuloma of the skin that he believes is the first of its kind to be reported in South America. A 47-year-old woman had a generalized malignant tumor and died 10 months after the onset. The disease as described showed a marked similarity with the condition described by Wiedman in 1947, and did not follow the perioral pattern presented by Nanta, Pautrier, and Labourgade. The most important histological feature of the case was a polymorphous granulomatous state with numerous eosinophils with phagocytosis of hemosiderin, and a marked perivascular infiltration and thickening of the intima of the blood vessels. In addition epithelioid cells and gigantocytes were observed. Foamy cells were not observed. The author considered his case to be closely related to the reticuloses. The differential diagnosis should be made from erythema elevatum diutinum, from which the condition described by Dr. Lobo differs in the predominance of eosinophils over neutrophils.

CHILE

Pressure Reactions to Effort and to Cold.—In *Revista Medica de Chile* for April, 1953, Prof. L. Herve and Dr. G. Kunstmann report a study of 138 persons with normal cardiovascular systems. Persons over 60 and under 16 years of age were eliminated. The average age was 32.4 years. There were 91 men and 47 women. In all persons, a strict check-up was made to eliminate those with possible cardiovascular lesions. This check-up included personal and family history, physical examination, radiologic tests, and neurological, electrocardiographic, and eye fundi examination. No blood pressure reading was performed until at least 2½ hours after the person had eaten and 1 hour after he had smoked a cigarette. Readings were performed at various intervals to eliminate psychic reactions. Hines classic cold pressure test was performed. Pressures were read every minute during the first five minutes and every five minutes during the next 15 minutes. A standard effort test was made. The frequency of the readings was similar to that in the former method.

The results of the measure of blood pressure in the superior and inferior extremities were similar to those obtained by other authors. The systolic pressure was generally 10 mm.

The items in these letters are contributed by regular correspondents in the various foreign countries.

higher in the tibial than in the humeral artery. It has a tendency to increase with age, but this increase is greater in the inferior extremities. The diastolic pressure (oscilometric method) is slightly lower in the inferior than in the superior limbs. The median blood pressure was practically the same in the humeral and in the tibial arteries. Postural changes produce great tensional variations. The change from the dorsal decubitus to the vertical position produces an increase in the systolic pressure, in the tibial region, of 88 mm. and in the diastolic reading of 67 mm. This increase is greater in tall persons. Systolic pressure in the arm did not show important variations with the change of posture, whereas the diastolic pressure showed an 8 mm. increase. The results obtained with the pressure tests can be summarized in the following manner:

Effort Test.—The effort test was performed in 54 normal subjects. The analysis of the data reveals certain differences in the tensional reactions of the superior and inferior extremities. In the arm, there is always a hypertensor reaction of the systolic reading, whereas, in the lower limb, there is an absence of systolic hypertension in some cases (7.4%) and even a decrease of the reading in certain other cases (5.5%). The diastolic readings were subject to even greater variations than the systolic. In the lower limb, increase was present in 27.7% of the cases, no change was registered in 33.3%, and a decrease was present in 38.8%. The humeral readings showed an increase of 50%; 18.5% of the persons tested showed no change and 31% had a lowering of the diastolic pressure.

Cold Pressure Test.—This test was performed in 53 persons. The changes in the maximum pressure are, in general, greater in the inferior extremities than in the superior. The variations of the diastolic readings, however, are rare and very similar in the superior and inferior limbs. In 55% of the subjects, there was a normal reaction in both the superior and inferior extremities. Hyperreaction of both the superior and inferior limbs was present in 26.4%; hyperreaction of the arms and normoreactions of the feet was present in 5.6%. Hyperreactions of the inferior extremities and normal readings of the humerals were present in 13.2%.

After trying to establish some relationship between the effort and cold tests, the authors conclude that the reactions to effort are different from those to cold inasmuch as their intensity and their duration are greater and longer. These tensional variations are not, however, statistically significant.

Chronic Nonspecific Ulcerative Colitis.—After analyzing the symptomatology of this clinical entity, Dr. H. Orrego and associates go on to study its pathological anatomy and radiologic and rectosigmoidoscopic features. In the group studied, the ages varied between 28 and 59 years. The duration of symptoms prior to consultation was from 10 years, the longest, and 10 days, the shortest. Endamoeba histolytica was present in 50% of the cases, and treatment of the amebiasis did not influence the evolution of the disease. The authors agree with Bokus that E. histolytica can produce a crisis in ulcerative colitis. In conclusion, the authors point out that rectosigmoidoscopy is the most valuable method of diagnosis. The personality of the patient with ulcerative colitis was studied by Dr. C. Nunez and co-workers of the psychiatric department of the Catholic University. They conclude that ulcerative colitis is the consequence of prolonged and intense emotional tension. Patients are prone to cyclic depressions that are produced by problems that are apparently very unimportant but that have deep psychological meaning. The psychosomatic approach to this disease is the only valid one.

Radiologic Study of Terminal Ileum in Typhoid.—After describing the technique used, Dr. J. M. Balmaceda and associates present the results obtained in 40 cases studied. Thickening and irregularity of the mucosa was present in 11 patients. Flocculation of barium was observed in 12, atonicity and dilatation of the terminal intestine in 12, and a nodular shadow that might be of lymphatic origin in 3. Two patients did not show any radiologic manifestations. In many of the patients, regression of the radiologic manifestations was observed during the evolution of the disease; in others there was no variation at the time of discharge. Radiologic signs similar to those observed in patients with typhoid were found by the authors in patients with amebiasis or coccidiosis. For these reasons, the authors do not believe that the radiologic manifestations found in patients with typhoid have any practical application.

Postgraduate Courses.—The postgraduate course in internal medicine began on July 1 and lasted until July 31. The lectures on theory were held in the Salvador Hospital, with the exception that those on infectious disease were held in the infectious ward of the Barros Luco Hospital. Practical courses were held in the Salvador Hospital in the section of internal medicine headed by Prof. H. Alessandri; those on infectious disease were held at the Barros Luco Hospital under the guidance of Drs. Horwitz and Kraljevic; and the discussion of physiopathology was conducted by Professor Egana. Among the subjects that were discussed were physiopathology, diagnosis and treatment of shock and of coronary insufficiency, diagnosis and treatment of the most frequent arrhythmias, heart failure, hemodynamics of congenital and acquired heart lesions, interpretation of hematologic examinations, diagnosis of acute nontubercular neumopathies, physiopathology of edema, diagnosis and treatment of chronic diarrhea, physiopathology, diagnosis, and treatment of diabetes, typhoid and paratyphoid, acute meningitis, and lumbago.

The postgraduate course in surgery began on Aug. 3 and continued until Sept. 3. Lectures on theory were held in the Salvador Hospital, and the practical demonstrations were given at the Salvador Hospital by Prof. F. deAmesti and Prof. M. Martínez and at the San Borja Hospital by Prof. A. Constant. Among the subjects presented, gallbladder lithiasis and tumors were given great emphasis. Proctology and thoracic surgery were also discussed.

ISRAEL

Medical History of Our Time.—On the occasion of the Seventh International Congress of the History of Science, Dr. J. Seide, medical director of the Hadassah Hospital, Haifa, has written a survey on "Medical History in Our Time," which was published in part in *Acta Medica Orientalia* of July, 1953. In this survey Dr. Seide says that "it is perhaps the tragedy of the medical profession that it must depend on the knowledge or the ignorance of its own time." This explains the coincidence of crises in medicine with revolutionary periods and the recurring wish of medicine to clarify its principles again and again in a changing world.

The present generation is privileged to witness an unprecedented growth of human knowledge. The advances in medicine are a direct result of application of the experimental method and the discoveries of science to its own needs, yet, as every member of the profession believes, medicine is essentially an art and has never been followed wholly in the scientific spirit.

It is perhaps an unavoidable but nevertheless unfortunate result of modern development that science, although increasing enormously the sum of our knowledge, has brought about also some separation of the different parts of it and consequently also a certain loss of contact between research and practical medicine. At the same time the mass of accumulated detail has grown beyond the power of the individual physician to assimilate. The progressing tendency toward specialization is the necessary result of this development, and there is no reason to expect that this process will be arrested in the future.

True, of some aspects of medicine physicians today know as much or as little as the contemporaries of Hippocrates. Science has, after all, its limitations, especially when concerned with living beings. Ancient knowledge, as far as it is concerned with facts, is seldom of any use, for in medicine there is no return to old methods and prescriptions. "The history of medicine is essentially a history of ideas" (Singer) and as such its value lies in making known some fundamental truths. It teaches first of all modesty, in demonstrating with overwhelming clearness that in science the truth of today is the error of tomorrow. Thus it promotes caution in acceptance of statements without factual evidence; it affords a corrective for the inborn tendency to form hasty and superficial judgments. A historically trained mind is not easily deceived if confronted with ideas that appear new in clever disguise but are really ancient and obsolete. It takes nothing for granted and is critical toward authority, however sacred. Without inductive reasoning, science and medicine would remain sterile no matter how rich in newly discovered details. It is, therefore, to be deplored that the medical student of this day is so deeply immersed in learning facts that he has little time for quiet reasoning. A course in medical history would have great advantages for him; it would extend his mental horizon and correct the view from which he is apt to see contemporary achievements. It would tend to lessen his pride and to make him appreciate more fully the work of other men, be they great or small, famous pioneers and innovators or humble practitioners.

The history of medicine is only a part of the history of civilization and as such is closely interwoven with the general development of humanity. Its study tends to bring the student in touch with many sides of human activity: the life and labors of the people, their beliefs and superstitions, and their aspirations and their needs. This would be a great help in clarifying the position of the medical profession in modern society.

The Israelian people have no reason to be ashamed of their scientific or medical traditions. There were periods in history in which the terms "Jew" and "doctor" were almost synonymous. But all this should not make Israelians forget that they are only a small part of a great whole, and that "the history of science is an essential part of the history not of this or that section of mankind, but of the whole of it" (Sarton).

Medical Problems of Immigration.—Dr. T. Berman reviewed in the *Dapim Refuim* (May, 1953) the medical problems of immigration in Israel, especially as far as the Labor Sick Fund is concerned. According to the review, these problems have been influenced by: (1) the tempo and extent of immigration, (2) the composition of the immigrant population according to country of origin and age groups, and (3) transfer of complete communities in certain countries, conducted without any selection and irrespective of age and the health standard of the immigrants. The first registration of the population in Israel in November, 1948, showed 716,000 persons. By Jan. 1, 1952, the number had reached 1,405,000 persons. There were times when more than 1,000 persons entered the country every day, and it was necessary to separate the healthy from the sick in the reception camps. On April 1, 1951, the percentage of immigrants received from various places were as follows: Europe, 54.7%; Asia, 30.4% (including Turkey, Syria, Iraq, and Yemen); North Africa, 14.3%; and the United States, 0.6%. The age groups of the newcomers differ greatly from those elsewhere, with a greater proportion of the population being under 14 years of age as compared to England and France. On the other hand the number of immigrants in the higher age groups is smaller than elsewhere. The percentage above the age of 60 was 6.8% in Israel, 15.8% in England, and 16.4% in France.

Differences in the countries of origin of the immigrants and age groups affected very much the medical aspects of the immigration. Among European immigrants tuberculosis was particularly prevalent. A total of 325,000 immigrants have been examined by mass radiography by Dr. Lichtenstein. In 1948-1949, when 61% of the immigrants were from Europe, the incidence of active tuberculosis among those examined was 0.8%; in 1950-1951, when the percentage from Europe dropped to 29% of the total, the incidence of tuberculosis decreased to 0.2%. The tuberculous patients among the immigrants have presented the country with the most urgent need of expanding hospitalization. From a total of 590 in 1949 the number of beds by 1951 had increased to 1,645.

The immigrants from Asiatic and North African communities have to a great extent transplanted here the diseases of their countries of origin, such as eye, skin, and children's diseases. The reports of ophthalmologists show that about 20% of all examined were suffering from trachoma, and most of these were children. Among skin diseases particular mention should be made of ringworm, which in many surveys affected 2% of all the examined children. The arrival of whole communities from Asia and North Africa increased infant mortality from 29 per thousand in 1947 to 51 per thousand in 1949. In 1951 this figure dropped to an average of 39 per thousand. There exist, however, notable differences of infant mortality in various types of settlements. The remarkable decrease in mortality of infants in 1951, even in the remote places of the country, shows a significant improvement, but much remains to be done. In spite of unsanitary living conditions, there have been no epidemics, apart from outbreaks of poliomyelitis and diphtheria. The diphtheria rate per 10,000 has been 14 in 1949; 14.7 in 1950, and 19 in 1951. The increase was due to discontinuance of immunization in the presence of an outbreak of poliomyelitis. Since then immunization on a large scale has been accomplished. The outbreak of poliomyelitis started in 1949 among the old, settled population and reached its peak in 1950; there were 14.3 cases per 10,000 persons in 1950 and 6.9 per 10,000 in 1951.

The mortality rate reached 14% of all cases. Comparative notes on morbidity in the old, settled population and the newly established localities have been made out of a population of 80,000 people. These notes should be viewed with reserve because they refer to ambulatory examinations only, but certain facts are too striking to be ignored. The incidence of hypertension in all the national groups compared is almost twice as high among the immigrants of European origin. The same high number of cases of hypertension was found by Dr. Robinson in the displaced-persons camps in Austria. There are great differences in acute intestinal diseases, which are almost three times as prevalent among the immigrants as among the old inhabitants. Children of newcomers show a greater incidence of dystrophy and toxicosis. The ratio between the cases of toxicosis among immigrants and that of old inhabitants is 17 to 1. A problem of particular significance is the undernourishment of many of the children from Asia and North Africa, notably those from Yemen.

LONDON

Magic, Medicine, and Religion.—Writing on the subject of magic, medicine, and religion, Sir Sidney Smith, Regius Professor of Forensic Medicine at the University of Edinburgh (*Brit. M. J.* 2:4815 [April 18] 1953) recalls that disease is as old as life itself and hypothesizes that the primitive medicine man aimed to safeguard life by mysterious rites, herbs, and appeals to a higher power. He then traces these processes from Egypt to Greece and thence to Rome, ending finally with the scientific awakening after the Dark Ages.

Regarding miracles, he points out that much that is commonplace in medicine at present would have previously been regarded as "miraculous." He reminds us that shock treatment of psychiatric diseases is really a "miracle," in that we have no more scientific notion of how the beneficial effects are produced than had the ancients in trephining the skull to exorcise demons.

After consideration of body-mind relationships and psychosomatic medicine, Professor Smith concludes that, notwithstanding modern advances, we are still only at the periphery of knowledge of living processes and that our ignorance of the mind itself is as great as that of the ancients.

Medical Auxiliaries.—An editorial in the *British Medical Journal* (2:1267 [June 6] 1953) deprecates the decision of the Minister of Health not to implement the recommendation of the Cope Committee to set up a system of statutory registration of medical auxiliaries with a central council. Admittedly, there were certain minor disagreements on the part of the almoners, the occupational and speech therapists, and the physiotherapists. The editorial regards as "unfortunate," however, the decision to ignore the weight of opinion. It points out that the public and the medical profession needs a guarantee that medical auxiliaries are properly trained, and that the only way to ensure this is to have a statutory register.

Teamwork in General Practice.—Speaking to the Annual Conference of Local Medical Committees, Mr. McCleod, the Minister of Health, raised enthusiasm by stating that the family doctor must be the leader of the domiciliary health services, able to treat patients in their own homes, away from the unfamiliar grounds of the hospitals. He should also have direct access to x-ray and laboratory facilities. If he does have occasion to refer a patient to hospital for a consultant's opinion, he should receive a prompt notification of the findings.

The *British Medical Journal,* in reporting this, adds that the problems of general practice are not peculiar to this country but are fundamentally identical in all countries with modern medical facilities. The report agrees wholeheartedly that the family doctor should be in the picture as the clinical leader.

After Twenty-Five Years in Medicine.—Writing in the *British Medical Journal* (2:930 [April 25] 1953), Dr. A. Meiklejohn describes an inquiry made by a group of Glasgow University graduates into the fate of nearly 900 fellow students who graduated in the years 1923-1926 and had been in practice for 25 years. The inquiry was by means of a questionnaire, which was answered by 48% of those who received it. Nearly 60% of these were family doctors, while the remainder were equally divided into consultants and those holding full-time appointments. A total of 90% were married, 7% to physicians and 19% to nurses. Nearly one family in two had at least one child entering medicine.

A statistical analysis of the cause of death in the 99 cases (of the total 899) in which it had occurred revealed that there was a significant increase in the number of deaths due to violence and poisoning. The total mortality, however, was less than that of the population of Scotland as a whole.

Asked what were the chief advances in medicine during their careers, the family doctors placed insulin, liver therapy, and diphtheria immunization first. The challenges of our age, they thought, were the care of the aged and chronic sick and the control of tuberculosis.

The Slough Experiment in Industrial Hygiene.—*The Lancet* (1:1241 [June 20] 1953) describes an experiment in industrial hygiene being carried out at Slough. The aim is to promote the health and welfare of workers in local industry.

At the head of the service is Dr. Nash, an American-trained industrial hygienist. He has over 15,000 workers under his care and that of his team, which includes an engineer and a chemist. The whole scheme helps to train students for the Diploma in Public Health of London University.

An important part of the work done deals with industrial hazards, e. g., from fumes or dust, but there is a routine service with a central clinic for industrial casualties that is coordinated with the local hospitals. Ancillary and recuperation services are also provided. It is concluded that there is great need for perhaps a dozen similar units in the United Kingdom.

Mount Everest Climbed.—Using open-circuit oxygen apparatus (reports *The Lancet* 2:1190 [June 13] 1953) Hillary and Tensing conquered Mount Everest on May 29, a few days before the coronation. Previously an attempt with closed-circuit oxygen apparatus had failed. Apparently oxygen supply was the most worrying aspect of the expedition and a tribute is paid to those who planned the oxygen equipment and to the sherpa parties who carried the necessary supplies.

Hallux Valgus.—*The Lancet* (2:000 [June 27] 1953) in an annotation comments that hallux valgus is usually due to badly shaped shoes (although it is seen in persons who do not wear shoes). While there is a tendency towards more sensibly shaped shoes, the shape of shoes is still a long way from the ideal of a straight inner border. The point is made that, although such a shoe may now appear ugly, it is merely a matter of what one is used to; it merely needs a Schiaparelli or Christian Dior to introduce the change overnight.

Psychiatry in General Practice.—In a discussion at the Royal Society of Medicine (April 14) Dr. John Fry gave an account of his experience over a two-year period in a middle-class practice. He found that psychiatric patients comprised 10% of his practice and that this form of illness was the third most prevalent after respiratory and gastrointestinal diseases. Women psychiatric patients outnumbered men by 5:2. About 1% of his practice were incurable neurotics attending time and again, but only a small number of his cases of psychiatric disease were serious enough to refer to hospital.

Dr. Denis Leigh of the Maudsley Hospital thought that the family doctor should diagnose depression earlier than is usually done but that the psychiatrist should be more interested in treatment of cases referred to him and less in simple diagnoses.

TURKEY

Pneumoperitoneum in Pulmonary Tuberculosis.—In the *Turkish Bulletin of Hygiene and Experimental Biology,* vol. 12, no. 3, Prof. Nusret Karasu of Ankara University department of phthisiology and his associate Dr. Ragip Üner have published the summary of their report on pneumoperitoneum therapy in pulmonary tuberculosis presented at the 11th National Medical Congress at Istanbul. Of 136 patients who had pulmonary tuberculosis and who were given pneumoperitoneum in conjunction with antibiotics, very good results were obtained in 51 patients. In 101 patients in whom there were contraindications to pneumothorax and caverns 4 cm. in diameter, the caverns closed and disappeared in 60% within six months after therapy with pneumoperitoneum. In 9% there was no change, and in the other patients the caverns had slightly decreased. Nine patients who did not benefit were given other collapse therapy. Very good results were obtained in 62 patients given pneumoperitoneum before surgical intervention; it arrested the growth of the caverns and prevented diffusion in the surrounding areas. Similar results were obtained in 50% of 47 patients who had caseous forms of tuberculosis in both lobes and a high temperature and who were in serious general condition. Similar results were obtained in 24 patients who had hemoptysis. Two patients with extreme hemoptysis did not benefit from the therapy. Sixty-two patients who had lung infiltrations were given pneumoperitoneum with resultant decrease of lesions and absorption. Forty per cent of the patients who had lobar dorsal tuberculosis, infiltrations, and caverns recovered after pneumoperitoneum therapy. In 19 of 27 patients who had primary tuberculosis, cavities disappeared after pneumoperitoneum was performed as an adjuvant to pneumothorax.

In pregnant women, pneumoperitoneum almost always had a good effect at first, but the effect abated soon after parturition when the diaphragm descended and physiological changes occurred. In order to prevent the diaphragm from descending, 10 patients were given pneumoperitoneum after parturition. Follow-up study revealed that the therapy had a desirable effect in nine patients, but the 10th later died of miliary tuberculosis. In 15 out of 17 patients with miliary tuberculosis, pneumoperitoneum performed during the post-acute stage had a very good effect. Favorable results were also obtained in 12 patients who had empyema. Of 26 children 6 to 12 years old, the majority had serious infiltrations, caseous pneumonia, and primary tuberculosis. Caverns disappeared within six months after pneumoperitoneum, and their general condition improved greatly. These children are now being followed up.

According to other medical publications, complications occur in 8% of the patients. Complications during pneumoperitoneum therapy at the Ankara University clinic were 4%; there were no fatalities. Peritonitis accounted for 1%, ascites 0.1%, hernia 0.1%, hemorrhages in the peritoneum 0.1%, mediastinal emphysema 0.1%, lobal atelectasis 0.2%, subcutaneous emphysema 0.12%, anorexia 3.0%, and loss of weight 0.15%. Air embolus, cardiac insufficiency, appendicitis, cerebral lesions, and torsion of the omentum did not occur.

CORRESPONDENCE

INTERSERVICE UTILIZATION OF EXPERT MILITARY CLINICAL CONSULTANTS

To the Editor:—During the past 18 months, seven Army and Navy medical officers stationed on the island of Puerto Rico have visited Ramey Air Force Hospital in the capacity of clinical consultants. Arrangements were made by the hospital commander in cooperation with the Surgeon, Antilles Command, and the Surgeon, 10th Naval District. Four of these military physicians who have participated on a voluntary basis are still assigned. They are Col. Lowell E. McKelvey (oromaxillofacial), Lieut. Col. Michael J. Hitchko (orthopedic), Lieut. Col. A. J. Bauer (radiology), all of Rodriguez Army Hospital, and Capt. C. K. Youngkin, U. S. N. (dermatology), Surgeon, 10th Naval District.

This small group of military physicians consists of highly qualified specialists, and they have served this Air Force hospital on a voluntary basis. Their value in graduate teaching and in direct care of Air Force personnel stationed here has been great. Although no mention of the fact has been made, it is apparent that the only personal benefit derived from this service is in the exercise of the art of medical consultation for which each has trained himself. In every case, each of these physicians has had almost more than he could adequately cover in his regular assignment. Transportation has been tedious and difficult at times.

In line with the experience gained from this small-scale medical operation, it seems advisable to suggest that each of the three services avail itself of the expert military consultants who are stationed in any area such as the geographical area of the island of Puerto Rico (any area of reasonable transportation radius). Many military physicians of mature age by necessity are losing proficiency in clinical specialty training while in key command and staff assignments. Also, in many Air Force, Army, and Navy headquarters or installations there are specialists who could be made available for utilization at other nearby hospitals on a mutual exchange of expert specialized talent. There should be some administrative machinery set up so that these physicians are utilized more consistently in part-time consultation on a voluntary basis. The first requirement to be met is the creation of incentive followed by some sort of recognition for such voluntary services performed.

It is suggested that an information roster be published for circulation to all command surgeons and hospital commanders throughout the military services, perhaps on a semiannual basis. This roster should include all American board diplomates and, perhaps, all of those now board eligible. Both an alphabetical and a geographical listing would be desirable. Some sort of incentive comparable to that enjoyed by civilian consultants to military hospitals should be devised. The simplest and most effective means would be an official letter or certificate of appointment issued by each surgeon general after a recommendation from a hospital commander has been tendered and approval action taken. Receipt of such an appointment should become an authorized inclusion in efficiency report job descriptions with appropriate narrative comment as to manner of performance (by letter, if necessary). It is believed that extra remuneration is not essential but that standing authority for travel at government expense should be provided explicitly for the purpose of conducting expert medical consultation within specified geographical limitations.

The last and most important essential suggestion for this expert manpower utilization is that of recognition. The military physician who has trained himself, whether privately or at government expense, receives little recognition for his effort except by the awarding of an Air Force specialty classification number that has no meaning outside of a small group of his potential contacts including members of sister services and civilian associates. The issuance of a yearly certificate of appointment and the semiannual publication of an alphabetical and geographical locator roster is in itself a form of recognition. However, all who are appointed will not participate; therefore, those that do should be recognized in some manner. It is suggested that a listing of each active participant be submitted to an appropriate publication, such as Government Services section of The Journal, on a regional or command basis at specified intervals.

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WATERHOUSE-FRIDERICHSEN SYNDROME

To the Editor:—It is reported in an article by Björklund (Fulminant Meningococcus Infection with Purpura: Case With Recovery, *Nord. med.* 49:571 [April 17] 1953; abstracted in *J. A. M. A.* 152:1671 [Aug. 22] 1953) that a 5-year-old girl, moribund for some hours after admission and with shock and postmortem-like lividity, recovered after the use of antibiotics (penicillin and sulfonamides), adrenal cortical extracts, desoxycorticosterone acetate, and vitamins C and K. Pretreatment studies and those carried out during the acute phase of the illness indicated a normal excretion of 17-ketosteroids and 11-oxysteroids. The normal values did not indicate marked, irreversible injury to the adrenal cortex.

Many patients with the Waterhouse-Friderichsen syndrome, however, continue to die in shock, despite the liberal use of antibiotic and chemotherapeutic agents. Treatment of the peripheral vascular collapse during the first 24 to 48 hours remains the major therapeutic problem. Muhl has reported the successful treatment of this phase of the illness with an intravenous infusion of arterenol (Nor-Epinephrine) (Nor-Epinephrine in the Treatment of Acute Meningococcemia with Shock [Waterhouse-Friderichsen Syndrome] and an Evaluation of Adrenocortical Function, *New England J. Med.* 249:229 [Aug. 6] 1953). His patient, with classic Waterhouse-Friderichsen syndrome, recovered. Studies of the adrenocortical function during the acute stage of the illness and after recovery indicated no failure of the adrenal cortex, even in the presence of shock, which responded to arterenol but not to parenteral replacement of adrenocortical substances. Other studies indicate that the Waterhouse-Friderichsen syndrome is not necessarily secondary to acute adrenocortical insufficiency and that the ultimate cause of peripheral vascular collapse is extensive vascular damage with capillary hyaline thrombosis. The use of a continuous infusion of arterenol to maintain a normal blood pressure may be a lifesaving measure.

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APPOINTMENTS FOR PHYSICIANS WHO VISIT GREECE

To the Editor:—Before the Public Health Advisory Group of the Foreign Organizations Administration Mission to Greece was terminated last June 30, I had the opportunity of serving as the deputy director; this was a very wide and interesting experience. One of the most pleasant experiences I had involved the fine cooperation that we received from American physicians that visited Greece. Such fine men as Dr. Leon Unger and Dr. Louis B. Mark took time from their pleasure trips to address groups of Greek physicians on the latest advances in their specialties. It was possible for us to arrange for the meetings and translation services for the speaker. These talks were important supplements to the knowledge of the Greek physicians who heard them and were very greatly appreciated. They continued the good feeling left by the meeting of the World Medical Association in Athens in 1952.

I believe that this important contribution by American physicians should be continued. Before I left Athens, arrangements had been made to provide visiting physicians with all the lecture facilities they may require, including translators and projection of films and slides. Inquiries about these services should be made two months in advance through the American Embassy, Athens, Greece. The Embassy's United States Information Service should be asked to work with Dr. Paul Kapalas of the Greek Ministry of Social Welfare to arrange details of meetings on convenient dates. Dr. Kapalas speaks English and is Director of the Division of Health Education.

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Washington 25, D. C.

WHIPLASH INJURIES OF THE NECK

To the Editor:—The article "Common Whiplash Injuries of the Neck" by Gay and Abbott (*J. A. M. A.* 152:18 [Aug. 29] 1953) is quite timely and excellent; however, certain statements are open to serious challenge. In one place the authors mention cars being ". . . driven ahead several hundred feet by the impact . . ." after being hit in the rear by another car. This is incredible if not ridiculous. If a car were standing on the level without brakes it would take an impact of many hundreds of foot tons to drive even a Ford or Chevrolet "several hundred feet by the impact," and the occupants of such a car would suffer far more than whiplash injuries.

In the illustration on page 1699 on the "mechanics of whiplash injury," the general argument violates basic principles of physics. Position *B* in the illustration is grossly erroneous. Assume that car B strikes car A from the rear. Passengers in car A are motionless in respect to car A. When car B strikes car A in the rear, most of the kinetic energy of car B is transferred to car A in the form of accelerated forward motion. The passenger in car A, by reason of inertia, will tend to remain fixed in space. The net effect is that car A is suddenly propelled forward from under the passenger. The back of the seat forcibly strikes the passenger in the back and carries forward with car A that portion of his body supported by the back of the seat. The head and neck, being unsupported, tend to remain fixed in space so that the body is in effect forcibly driven out from under the head and neck. This is the mechanism of whiplash injury.

Forward flexion of the head and neck can occur only if car A strikes some relatively immobile body ahead and is suddenly decelerated. This is what happens to occupants of car B when it strikes car A. Car A is accelerated; car B is decelerated. Acceleration throws the body backward and causes whiplash injuries; deceleration throws the passenger forward against the instrument panel, etc. Obviously, it often happens—especially in heavy traffic—that a car is accelerated by being struck in the rear and then is decelerated by striking a car ahead. In such a case a person may well sustain a whiplash injury first and then be thrown forward and sustain other injuries. In another place on page 1699 the authors state that "multiple oscillations of the head and neck occurred in alternate flexion and extension." In such collisions the human body is rather inert and has about as much capacity for such "multiple oscillations" as a sack of potatoes. It cannot oscillate like a tuning fork.

For many years I have been increasingly annoyed by the tendency of my confrères to stigmatize as "psychoneurotic" any symptom complex for which an organic cause could not be easily demonstrated. I cannot accept as true the authors' statement that "a persistent psychoneurotic reaction" is responsible for prolonged disability in victims of whiplash injuries. The authors' own statements make this improbable. They mention the probability of various degrees of rupture of intervertebral ligaments and admit that herniated cervical intervertebral disk was clinically diagnosed in 26% of their series.

I have personally observed innumerable automobile collisions ranging from trivial to the severest. For some years I was one of the autopsy surgeons (full time) to the coroner, Los Angeles County, California. I have performed autopsies on quite a number of persons who were killed by the worst of whiplash injuries—"broken neck." I have performed autopsies on at least a dozen persons in whom the skull was completely dislocated from the spine by such injuries. In hospitals I have seen quite a number of very serious but nonfatal fractures of the cervical spine by whiplash injury. Drs. Gay and Abbott describe the less serious, nonfatal whiplash injuries. Even in the less serious whiplash injuries, who can say how much intervertebral ligamentous tearing exists? Who can say how much hemorrhage occurs at the site of the injury and how much subsequent fibrosis and adhesions develop around nerve roots or into or between cervical muscles? Certainly such things may be expected to result in some degree of prolonged or permanent impairment. Even worse, who can say how much or how little trauma of the cervical cord is incurred?

Certainly the x-ray cannot give the answers to these questions. By the same token early treatment and physiotherapy may be expected to minimize sequelae, and delayed treatment can be difficult or futile. Prolonged immobilization—necessary or unnecessary—could be expected to similarly result in prolonged or permanent difficulty not detectable by x-ray.

The neck being a highly mobile structure, it seems reasonable to expect that any post-traumatic fibrosis around nerve roots or into or between muscles, even though rather slight, could be expected to give more prolonged symptoms than elsewhere along the spine. It seems to me that one should be very reluctant to categorically state that "More than half the patients in this series . . . were seriously handicapped in this way," i. e., by "persistent psychoneurotic reactions." Many symptoms are due to real factors that cannot be objectively demonstrated. Not a few persons die of causes that cannot be demonstrated by the most thorough autopsy. Such persons do not die of psychoneuroses.

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HYMENOLEPIASIS

To the Editor:—In a report about human hymenolepiasis in The Journal, Sept. 5, 1953, page 47, there is a report of the work of Dr. Dacio F. Amaral of São Paulo, Brazil. It is stated that Dr. Amaral found that chloroquine and gentian violet are not effective against hymenolepiasis due to Hymenolepis nana. After giving two or three courses of chloroquine, I have obtained cures in 40% of patients with this infestation. In spite of this low per cent, chloroquine is superior to other drugs in the treatment of this condition. I usually give 0.01 gm. per pound of body weight (but not more than 0.5 gm.) daily for 25 days. I have also given three tablets containing 0.15 gm. of chloroquine and 0.05 gm. of quinacrine daily to adults for 20 days and one tablet daily for every three years of apparent age to children for 20 days. The rate of cures is the same as for chloroquine alone. Because of the danger of autoreinfestation parents are advised to use the same precautions used to prevent reinfestation with oxyuris. In Cuba, infestation with H. nana is commoner in school age children than in adults.

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FREE BALLOON ASCENT

To the Editor:—Our attention has been called to a reference to the National Geographic Society-Army Air Corps stratosphere record achievement, Nov. 11, 1935, in a free balloon ascending to 72,395 ft. from the Stratosphere Bowl near Rapid City, S. D. The two U. S. Army Air Corps balloon experts who achieved this record were Capt. A. W. Stevens and Capt. O. A. Anderson. In The Journal, Oct. 3, page 485, John F. Fulton, M.D., erroneously credits the achievement to the distinguished Swiss scientist Dr. Auguste Piccard.

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THE LEISURE CORNER

COOKING FOR PLEASURE

No history of civilization would ever be complete without cognizance of the role played by food as a motivating force behind great events. When primitive man discovered that the flesh of his captures became softer and more palatable after being subjected to the action of fire, the art of cooking began. But, like all the arts, it was tempered by the passage of time and progressed slowly and laboriously from a simple achievement to an elaborate process. Throughout the ages, historical figures who attained victories in the more subtle realms of diplomacy are known to have employed food, sumptuously prepared and served, as a pleasurable weapon in order to add persuasiveness to their arguments. On a more familiar level, food has been used by every clever homemaker for the purpose of enriching the happiness of a home and its inhabitants.

During the past decade or so, the art of cooking has attained new stature in the United States. Through their newly acquired experiences as world travelers, many Americans have learned that distant corners of the world possess fascinating culinary customs of which they were hitherto unaware. One result, of course, has been to remind them that great numbers of Americans have in years gone by cast off old world cooking habits that were once native to their fathers and mothers and grandparents. There has also dawned the realization that many dishes, reintroduced to the palate, would provide plenty of opportunities for a more colorful and satisfying type of living.

The abundance of unusual foods and spices that now flow into the United States from all over the world, together with the vast supply of native-grown food products that is produced by our own diverse climate and frequently refined by elaborate manufacturing processes, tend to make the United States a natural habitat of the connoisseur of fine food. From Spain and Portugal has come a fondness for olives and oil, sharp peppers, and a variety of spices, as well as the custom of frying fish in oil. Sweet-and-sour stews had their origin in Germany, while the tasty contributions of Holland include herring, pickled cucumbers, dainty butter cakes, and coffee cakes. An aggregate of soups, stewed fish, stuffed fish, and sour cream dishes are derived from Poland, and from Russia have come blintzes, different kinds of borsch, *kasha* (a mush of coarse buckwheat, barley, or millet), pickled red cabbage, smoked fish, and fermented dark bread. Hungary contributed paprika and strudel, and Romania many variation for preparing the eggplant. Transplanted to the United States the Smörgåsbord, an old Scandinavian custom, has grown deep roots in our national gastronomic affections until now we feel that it belongs to us. All these gustatory accomplishments, in turn, are complemented by America's own contributions, namely, corn, sweet potatoes, and turkeys, to name an important few. Obviously, all countries have contributed to the advancement of the culinary art, culminating in the United States as a gastronomic melting pot and a desirable eating place for peoples of many religions and folkways.

Today, something new has been added to the age-old saga of good cooking—a growth in the number of persons of both sexes who are interested in good cooking. Since ideas and ideals pertaining to American cooking have their roots in various lands and cultures, a growing pride in the preparation and serving of interesting meals has developed among many American men and women. It is no longer considered chic, charming, or "intellectual" to be ignorant in the kitchen. Many men from all walks of life, including physicians, have taken very much to heart the motto "Every man should learn to cook in self defense." They have learned that if food that is prepared is basically good and if there is contrast in texture, color, and flavor, this will constitute more than half the cooking battle. Add to this the zest of being able to cook an unusual dish or meal, and the amateur male cook is certain to establish an enviable reputation. It is axiomatic that an unusual dish or meal stimulates the appetite by appealing to the eye; so that, if food is properly and tastefully served, it will first gratify the eye, then the nostrils, then the tongue and the palate. The digestive apparatus will do the rest.

To reveal a secret—there is no mystery about cooking. While it is true that the proper preparation and serving of good food is an art that satisfies the inner man and gives pride and pleasure to the cook, cooking, if the truth be known, is not an art that requires special talent. Actually, it is a skill that almost every able-bodied man can readily learn. The warmed-over facts of the matter are that there is no such creature as a natural cook. As any seasoned cook will tell you, "they all have to learn, sooner or later." Although the process may prove painless and training in the kitchen may be absorbed almost unconsciously, every good cook has to be exposed to cooking education of some sort. Some men will take to cooking more easily than others, but, if there is interest in appetizing food and its preparation, then every male physician in the land has the potentialities for becoming a good cook.

At least half of the social and culinary success of any hurried epicurean depends upon a reasonably substantial stock of supplies. The ability of the medical man to whip up something refreshing with miraculous speed and apparent ease frequently depends as much on skill in shopping and management as on skill in cooking. Another point to be emphasized is that the core of all epicurean effort seems to be centered in a treasury of seasonings. The amateur cook will want all that he can find of the usual spices, herbs, and flavorous seeds such as salt, pepper, cloves, cinnamon, allspice, nutmeg, ginger, curry, sage, thyme, rosemary, savory, and paprika. And a few of the less usual ones, too, such as cardamin, cumin, and saffron. Not to be overlooked, however, are condiments, olives, and pickles to be used not only at the table but also in the preparation of food.

Wines can also be used frequently in planning a gastronomic tour de force, table wines, sherry, port, rum, brandy, and an occasional dash of champagne. Wine is exceedingly helpful in glamorizing simple dishes and simple meals. It should be borne in mind that wine provides flavoring, and that flavoring is very often one of the least expensive ingredients of the dish, as well as the most important. Wines employed in cooking need not be expensive, but they should be well flavored and well made. This is also true of other liquors—brandy, rum, liqueurs, and cordials.

For years many persons have felt that the use of rum and brandy for the ever-so-easy, dramatic trick of serving food flambé (afire) should be confined only to Christmas pudding. But a number of famous restaurateurs have popularized food flambé, and now all manners of food ranging from appetizers to soups, meats, fish, puddings, and ices acquire a refreshing attractiveness and a definite mellowing and blending of flavors by the addition of some type of spirits. Finally, the amateur male cook should not serve a dish; he should *present* it to his guests, and the manner of his presentation will prove every bit as important as his preparation. Much of the difference between plain cooking and epicurean cooking is the difference in the way food is served.

The ability of the male amateur cook to cook well is, as has been pointed out, something on which reputation and fame can be built. Perhaps his friends will be amused by his early attempts to master the culinary art, but, if a dish or a meal is tastefully and unusually well prepared, they will turn to applaud with admiration. For bachelor physicians especially, the simple question "What shall we have for dinner tonight?" will provide a new and refreshing invitation to hospitality.

MEDICAL LITERATURE ABSTRACTS

UNITED STATES

A.M.A. Am. J. Diseases Children, Chicago

86:1-130 (July) 1953

Growth and Metabolism in Normal and Thyroid-Ablated Infant Rhesus Monkeys (Macaca Mulatta): I. Growth and Metabolism in Normal Infant Rhesus Monkeys (Macaca Mulatta). D. E. Pickering, F. S. Smyth, G. van Wagenen and D. A. Fisher.—p. 1.
Id.: II. Growth and Metabolism in Thyroid-Ablated Infant Rhesus Monkeys (Macaca Mulatta). D. E. Pickering and D. A. Fisher.—p. 11.
Congenital Sarcoma of Foot: Case Report and Review of Literature. J. J. Fahey and J. A. Bollinger.—p. 23.
*Primary Myocardial Disease in Infancy and Childhood. H. D. Rosenbaum, A. S. Nadas and E. B. D. Neuhauser.—p. 28.
Pulmonary Edema Produced by Intratracheal Injection of Milk, Feeding Mixtures, and Sugars. T. J. Moran.—p. 45.
Coccidioidomycosis in Infants. T. E. Townsend and R. W. McKey. —p. 51.
Osteochondritis Deformans Coxae Juvenilis: Familial Demonstration. W. R. Hamsa and L. S. Campbell.—p. 54.

Primary Myocardial Disease in Infancy and Childhood—Rosenbaum and associates observed at the Children's Medical Center in Boston 45 children with severe heart disease of a type that could not be classified as either rheumatic or congenital heart. All children had cardiomegaly and electrocardiographic abnormalities, but the blood pressure was normal and significant murmurs were absent. Twenty-six of the children died, and autopsy studies revealed glycogen-storage disease of the heart in three patients, aberrant left coronary artery in one patient, medial necrosis of the coronary arteries in two patients, idiopathic myocarditis in 10 patients, and subendocardial sclerosis in 10 patients. An attempt was made to establish clinical criteria for the differential diagnosis of these five separate diseases in living patients. All of these patients showed generalized cardiomegaly on x-ray examination, and in the majority left ventricular hypertrophy and T-wave changes of myocardial damage were revealed by electrocardiography. These cases may be divided into two subdivisions. One group includes glycogen-storage disease of the heart, aberrant left coronary artery, and medial necrosis of the coronary arteries. These are rare conditions that are usually seen in infants under 6 months of age and in which congestive heart faliure is uncommon. Idiopathic myocarditis and subendocardial sclerosis constitute the second, and much larger, group. Here the age at onset of symptoms is frequently beyond 6 months, and congestive failure is usually present and often severe. The first group is not amenable to treatment; the second frequently responds to digitalization. Such a division is admittedly not sharp, and there is considerable overlap from one group to the other.

Alabama State Medical Assn. Journal, Montgomery

23:35-58 (Aug.) 1953

Some Newer Concepts in Treatment of Uremia. K. Berry.—p. 35.
Use of Gonadal Steroids in Gynecology. R. A. Kimbrough Jr. and S. L. Israel.—p. 38.
Transmission of Viral Hepatitis by Dental Procedures. J. L. Thompson Jr., W. D. Sutliff, T. P. Hennessy and S. L. Norman.—p. 45.
Desmoid Tumor and Fibrosarcoma. B. F. Thomas Jr.—p. 48.

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Titles marked with an asterisk (*) are abstracted.

American Journal of Clinical Pathology, Baltimore

23:731-840 (Aug.) 1953

Appraisal of Instrument for Counting Erythrocytes by Scatter Photometry with an Adaptation for Hemoglobin Determination. F. S. Brackett, C. F. T. Mattern and B. J. Olson.—p. 731.
Significance of Gastric Polyps Accompanying Cancer. R. G. McManus and S. C. Sommers.—p. 746.
Medical Evidence in Fatal Gunshot Injuries. L. Adelson.—p. 758.
Metaplasia of Bronchial Epithelium: Postmortem Study. R. W. Weller. —p. 768.
Hormonally Induced Eosinopenia of Peritoneal Fluid of White Rats. G. M. Higgins.—p. 775.
Use of Perchloric Acid Filtrate and Stabilized Anthrone for Determination of Serum Glucose. V. Kapuscinski and B. Zak.—p. 784.
Determination of Mercury in Biologic Materials. D. G. Simonsen. —p. 789.

American Journal of Medicine, New York

15:141-280 (Aug.) 1953

*Transposed Pulmonary Veins: Correlation of Clinical and Cardiac Catheterization Data. D. C. Levinson, G. C. Griffith, R. S. Cosby and others.—p. 143.
*Diagnosis of Overriding Aorta with Special Reference to Circulation Time Tests. A. J. Gordon, R. P. Lasser, H. L. Moscovitz and others. —p. 158.
Influence of Age, Anesthesia and Cerebral Arteriosclerosis on Cerebral Vascular Activity to CO_2. J. F. Schieve and W. P. Wilson.—p. 171.
Tests for So-Called Capillary Fragility of Skin and Significance of Positive Tests in Vascular Disease. L. E. Hines, J. Catlin and D. L. Kessler.—p. 175.
Chronic Hyperosmolarity of Body Fluids with Cerebral Lesion Causing Diabetes Insipidus and Anterior Pituitary Insufficiency. W. W. Engstrom and A. Liebman.—p. 180.
Diabetic Nephropathy: Kidney Biopsy and Renal Function Tests. C. Brun, H. Gormsen, T. Hilden and others.—p. 187.
Needle Biopsy of Kidney: Report of Five Cases of Multiple Myeloma. H. P. Greenwald, G. J. Bronfin and O. Auerbach.—p. 198.
Needle Biopsy of Liver: IV. Relationship of Clinical and Laboratory Findings to Histologic Structure in 100 Cases of Portal Cirrhosis. E. M. Schneider, J. R. Berman, E. A. Gall and L. Schiff.—p. 207.
Paraplegia and Secondary Amyloidosis: Report of Six Cases. W. Newman and A. S. Jacobson.—p. 216.
Varicella Encephalitis. E. Appelbaum, M. H. Rachelson and V. B. Dolgopol.—p. 223.
Some Aspects of Pharmacology of Neuromuscular Function. W. F. Riker Jr.—p. 231.

Transposed Pulmonary Veins.—Ten patients (four adults and six children) with transposed pulmonary veins are described. These included four patients with partial and two with complete pulmonary vein transposition, in whom cardiac catheterization and clinical findings are correlated. The remaining four patients presented (1) pulmonary valvular stenosis with partial transposition of the pulmonary veins and intact ventricular septum, (2) a left superior vena cava entering a sinus venosus in common with the hepatic veins and anomalous drainage of the right pulmonary veins into the right atrium, and (3) tricuspid atresia with partial transposition of the pulmonary veins (two cases). The diagnosis of anomalous pulmonary vein drainage was made by cardiac catheterization with roentgen visualization of the catheter in the anomalous vein, by a characteristic pulmonary vein pressure curve, and by 90 to 95% oxygen saturation in the blood sample from the anomalous vein. Surgical exploration was done in the two patients with complete transposition of the pulmonary veins. In both, a left pulmonary vein was anastomosed to the left atrial appendage. In one patient this resulted in definite improvement, while the other died a short time after the operation. Surgical treatment should be reserved for patients with complete transposition accompanied by increasing limitation of physical activity. Usually surgery is not indicated in patients with partial transposition.

Diagnosis of Overriding Aorta.—"Overriding aorta" is an anatomic term indicating that the vessel, at its origin, straddles the interventricular septum and, therefore, accepts blood from both ventricles. A high interventricular septal defect must coexist. Current methods of diagnosing overriding aorta may be divided into the following categories: (1) those involving x-rays, including angiocardiography; (2) studies of the speed of the circulation; (3) methods that depend on the relative saturation of arterial blood with oxygen; and (4) cardiac catheterization studies. Conventional studies involving the speed of the circulation, including angiocardiography, may prove a right to left shunt without indicating its site. Pressure relationships obtained during cardiac catheterization may be relied upon only to exclude overriding aorta. Passage of a catheter into the aorta from the right ventricle is the most reliable method of proving the diagnosis of overriding aorta. A rapid right ventricle to ear circulation time is strongly in favor of this anomaly. In 44 patients, during the course of the routine diagnostic cardiac catheterization, 3 to 5 cc. of a 0.5% solution of Evans blue was injected directly into the right ventricle through the cardiac catheter, and its arrival in the blood vessels of the ear was timed by means of a Millikan oximeter. The possibility of veno-arterial shunting through an interatrial septal defect is eliminated by injecting the dye directly into the right ventricle. In 13 of 44 patients in whom this test was done, overriding aorta was believed to be present. In this group the range of circulation times from the right ventricle to the ear was 3.2 to 13.4 seconds. The authors believe that a circulation time from the right ventricle to the ear of less than 5 seconds is very suggestive of overriding aorta, and a time of 4 seconds or less is almoset certain evidence. A circulation time of more than 5 seconds does not rule out overriding aorta, particularly when the right to left shunt is small. With rare exceptions, the presence of a right-sided aortic arch in a cyanotic patient indicates that the aorta arises as a whole or in part from the right ventricle. A case of a 29-year-old woman is described indicating that the ordinary clinical examinations are sometimes unable to establish or exclude the presence of this condition. In particular, a right to left shunt through an interatrial septal defect may be of such magnitude as to lead to a shortening of the circulation time equal to that caused by an overriding aorta. This may be reflected in early visualization of the aorta during angiocardiography. It is often impossible to ascertain by angiocardiography if premature visualization of the aorta occurs by way of an overriding aorta or via an interatrial septal defect. It is erroneous to assume that overriding of the aorta is present because opacification of that vessel occurs at a time when the left ventricle is not visualized. Ventricles, especially the left, are not usually well seen in angiocardiograms.

American Surgeon, Atlanta, Ga.

19:685-801 (Aug.) 1953

Some Effects of Acute Irradiation Injury in Dogs. R. E. McDonald, R. E. Jensen, H. C. Urry and others.—p. 687.
*Problem of Hepatolithiasis: Study of 35 Personal Cases. N. F. Hicken, A. J. McAllister and D. W. Call.—p. 695.
Importance of Auscultation in Diagnosis and Management of Acute Abdominal Disease. J. A. Gubler, K. H. Gubler and W. T. Mullikin.—p. 708.
Meckel's Diverticulum: Review of 63 Cases in One City. W. S. Brooke.—p. 712.
Duplication of Stomach with Extension into Chest. C. D. Goon.—p. 721.
Anterior Compartment (Anterior Tibial) Ischemia Syndrome. W. H. Moretz.—p. 728.
Treatment of Varicose Veins. J. H. Clark.—p. 750.
*Phlegmasia Cerulea Dolens Type Reaction Following Retrograde Vein Injection of Sodium Morrhuate: Report and Discussion of Case with Unusual Pathologic Findings. W. Nelson.—p. 756.
Observations on Effects of Carotid-Jugular Anastomosis. W. H. Moretz and P. F. Bray.—p. 765.
Hereditary Hemorrhagic Telangiectasia. D. A. Dolowitz.—p. 776.
Superficial Injuries of Hand: Sequelae and Management. T. R. Broadbent.—p. 784.
Acrizane Chloride: Promising New Skin Antiseptic. P. B. Price and B. L. Wilson.—p. 792.
Injection Treatment of Hemorrhoids. G. L. Wright.—p. 799.

Hepatolithiasis.—Hicken and associates present an analytical study of 35 cases of cholelithiasis. They stress that hepatolithiasis is not as rare as is assumed, since, according to one investigator who summarized all reported cases, hepatic calculi occur in approximately 7.4% of cholelithiasis. The fact that intrahepatic and extrahepatic bile ducts form one continuous ductal system affords a rational explanation for the genesis of liver stones. If infected bile, plugs of mucus, biliary sand, and small gallstones are able to float around in the choledochal bile, what is to deny them entrance into the liver radicles? The stagnant bile, which cannot escape from the obstructed choledochus, enters the confluent hepatic ducts. Cholangitis, which often originates in the choledochus, tends to spread upward and to attack the liver radicles. When increased intraductal pressures distend and dilate extrahepatic bile ducts, the same changes are found in the hepatic components. If such pathological soil is capable of producing stones within the large bile ducts, there is no reason to believe that the same would not happen within the hepatic segments. Hepatic calculi were multiple in 95% of the 35 cases observed by the authors. They were found in both lobes of the liver in more than half of the patients. Hepatic calculi do not produce a characteristic clinical syndrome. Occasionally the stones remain silent, but, when they cause disturbances, the resulting symptoms are those of biliary colic. A correct preoperative diagnosis was not made in a single case of this series. The calculi were discovered at surgery by means of operative cholangiography in 51% of the cases and by postoperative cholangiograms in 49%. Awareness on the part of the surgeon is not helpful for detection. Suspicion of hepatic calculi should be aroused, if the extrahepatic ducts contain small stones, biliary sand, or inspissated bile pigments; if one segment of the liver is enlarged, cirrhotic, and bile stained; if there are localized liver abscesses; and if calcified shadows appear on the roentgenograms. Stones residing in the large intrahepatic ducts can often be extracted by instruments, and biliary sand or debris can often be flushed out of the hepatic radicles. The problem of removing multiple calculi seems unsurmountable. Chemical dissolution or fragmentation of the residual stones by irrigating the bile ducts with solvents has been disappointing. Fifteen per cent of the patients in this series required subsequent operations because the hepatic stones descended into the large bile ducts and produced either painful colic or obstructive jaundice.

Phlegmasia Cerulea Dolens Following Injection of Sodium Morrhuate.—The case presented by Nelson concerned a woman, aged 30, whose past history was negative, except for bilateral internal saphenous varicosities progressive over six years. Four days after she had been delivered of her fourth normal infant, bilateral high saphenous ligations were done by her physician. The right side was done first under local anesthesia. All branches were ligated. The sapheno-femoral junction was clearly identified, the vein was ligated at this point, and 5 cc. of a 5% sodium morrhuate solution was injected into the distal segment. The patient almost immediately experienced severe burning pain in the right thigh and leg. The pain was so severe that general anesthesia was induced for high ligation on the opposite (left) side, which was again followed by injection of sodium morrhuate, but no untoward symptoms developed. The right leg and lower two-thirds of the thigh became dusky blue and swollen within two hours. The foot became white and cold. Relief occurred for three or four hours after lumbar sympathetic procaine (Novocaine) block was done on the day following ligation. The patient was referred to the author four days following ligation, when the right foot, leg and thigh were swollen and deeply cyanotic. Lumbar sympathetic block was done on admission with moderate relief, and eight hours later a right lumbar sympathectomy was done. The patient was discharged assuming that there was a possibility of saving the extremity, except the great toe and distal first metatarsal. One month later, when she returned, the dark areas of the leg and thigh were gangrenous but dry, except at the edges where localized infection was present. Débridement of all necrotic areas was done by combining surgical and chemical methods. Later a partially open amputation was done just below the knee. The clinical picture was that of phlegmasia cerulea dolens with associated severe vasospasm and ischemic necrosis. It differs from previously reported cases in that (1) it developed immediately following sodium morrhuate injection of the ligated saphenous vein; (2) it was associated with complete thrombosis of the anterior tibial artery with necrosis of the muscles of the anterior tibial compartment; and (3) it was not associated with deep venous thrombosis. Phlegmasia cerulea dolens is used as a descriptive term for a clinical variant rather than a term for a definite disease entity. The author concludes that in the treatment of varicose veins multiple ligation or stripping is a much more controlled procedure than retrograde injection of an irritant.

Annals Otol., Rhin. and Laryngology, St. Louis

62:285-606 (June) 1953 Partial Index

Primary Plasma Cell Tumors of Upper Air Passages with Particular Reference to Involvement of Maxillary Sinus. C. A. Heatly.—p. 289.
Primary Amyloidosis of Larynx with Report of Experimental Treatment with Cortisone. J. W. McCall and W. R. Fisher.—p. 316.
*Clinical Significance of Keratosis of Larynx as Premalignant Lesion. F. J. Putney and J. O'Keefe.—p. 348.
Carcinoma-In-Situ of Larynx. A. H. Miller and H. R. Fisher.—p. 358.
Chordoma—Final Report and Re-Evaluation of Treatment. H. B. Orton. —p. 371.
Neurilemmoma (Schwannoma) of Larynx. L. C. McHenry.—p. 392.
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Condition of Fluid in Middle Ear: Factors Influencing Prognosis in 56 Children. J. T. King.—p. 496.
Corrosive Stricture of Esophagus: Case Treated by Esophageal Resection and Intrathoracic Esophago-Gastrostomy. F. Ellis and T. E. Wilson. —p. 513.
Studies of Disability of Pharynx Resultant from Poliomyelitis. J. F. Bosma.—p. 529.
Rhinogenous Intracranial Complications in Antibiotic Era. E. M. Skolnik, B. J. Soboroff, R. B. Lewy and F. Schiller.—p. 548.

Keratosis of Larynx as a Premalignant Lesion.—The lesions of the 125 patients with keratosis of the larynx reviewed in this report were classified clinically into three groups: (1) those that were carcinoma when first seen (57 lesions), (2) those that were first benign and later developed into carcinoma (27 lesions), and (3) those that never showed evidence of malignant degeneration, some after years of observation (41 lesions). This report is concerned chiefly with the 27 patients in whom the lesion was first diagnosed as keratosis and later progressed to carcinoma. Since it is impossible to tell which area will remain keratotic and which will undergo carcinomatous change, the entire keratotic area should be eliminated if possible. In simple keratosis improvement will follow within two or three weeks after the removal of irritation of the larynx. If the lesion does not exhibit evidence of healing within this time, it must be regarded with suspicion. Persistent or recurrent keratosis requires repeated histological study including the subepithelial layer to detect the malignant change. In observing keratosis of the larynx clinically, the authors found that those lesions that exhibited an inflammatory zone around the periphery of the keratosis were more apt to be malignant or undergo malignant degeneration than those around which there was no inflammatory zone. Lesions with an irregular projection above the surface and with a papillary appearance oftener were found to contain carcinoma than those in which the lesion was flat with no sharp line of demarcation between the keratosis and the normal mucosa. In lesions that undergo malignant degeneration the first histological change commonly observed is an alternation in the intraepithelial cellular structure, which is designated as carcinoma in situ. This stage of malignant cellular change limited to the epithelium, and without invasion of the basement membrane, may last for many years, and its potentialities are in doubt. This change may also be the first indication of invasive carcinoma. At times one may find carcinoma in situ adjacent to invasive carcinoma or invasion may be present in other parts of the lesion. Repeated histological examination of different portions of the keratotic lesions may be needed to make an accurate diagnosis. The management depends upon the clinician's evaluation of the lesion. He cannot accept a negative pathological report as unequivocal. The clinical appearance of the lesion and the laryngologist's judgment are important factors in determining the treatment. Irradiation may make the keratotic lesion disappear while it is still in the premalignant stage. In those lesions in which the first manifestation of carcinoma is keratosis, the management is that of a laryngeal malignancy.

Cancer Research, Chicago

13:545-616 (Aug.) 1953. Partial Index

Review: On Mechanism of Action of Certain Temporary Anticancer Agents. H. E. Skipper.—p. 545.
Studies with Radioactive Colchicine: I. Influence of Tumors on Tissue Distribution of Radioactive Colchicine in Mice. A. Back and E. J. Walaszek.—p. 552.
Systemic Effects of Tumors in Force-Fed Rats. A. G. Stewart and R. W. Begg.—p. 556.
Detection of Metastatic Tumor Cells by Intraperitoneal Inoculation of Organ Brei from Tumor-Bearing Mice. H. Goldie, B. R. Jeffries, A. M. Jones and M. Walker.—p. 566.
Occurrence of Pulmonary Tumors in Strain A Mice Following Total-Body X-Radiation and Injection of Nitrogen Mustard. W. E. Heston, E. Lorenz and M. K. D. Eringer.—p. 573.
Attempts to Induce Immunity Against Mammary Adenocarcinoma in Inbred Mice. E. J. Foley.—p. 578.
Effect of Russian Encephalitis and Other Viruses on Mouse Leukemia. C. M. Southam and J. D. Epstein.—p. 581.
Autoradiography of Mast Cells in Experimental Skin Tumors of Mice Injected with Radioactive Sulfur (S^{35}). G. Asboe-Hansen.—p. 587.
Tissue Culture Screening of Amino Acid and Analogs for Selective Damage to Mouse Sarcoma Cells. J. A. Jacquez and F. Mottram.—p. 605.
Heterologous Transplantation of V-2 Rabbit Carcinoma. H. S. N. Greene.—p. 610.

Connecticut State Medical Journal, Hartford

17:653-730 (Aug.) 1953

Bulbar Polio—Manifestations and Residual Disabilities. A. D. Berman and J. A. Kirchner.—p. 655.
*Gastric Malignancy: Comparative Study of Etiology, Diagnosis, and Therapy of 707 Cases. R. H. Abrahamson.—p. 658.
Hemorrhagic Diathesis Due to Proaccelerin Deficiency (Congenital Parahemophilia): Case Report. W. H. Faeth.—p. 664.
Dermatitis in Industrial Medical Program. L. Schwartz.—p. 667.
Rectal Examination in General Practice. S. B. Kleiner.—p. 671.
Visit to India. O. W. Hess.—p. 673.
State and Medical Care. S. Shindell.—p. 679.

Gastric Malignancy.—Of the total of 707 cases of malignant gastric tumors, which Abrahamson cites in this report, 583 had been previously reviewed having been observed at the Bellevue Hospital in New York City between 1919 and 1946. The remaining 124 cases, with which this paper is chiefly concerned, were studied during the last decade at the Stamford Hospital, Stamford, Conn. Comparative studies on this material indicate the poor prognosis of patients with gastric cancer, and emphasize that no real progress is being made and that this is due chiefly to the failure to diagnose gastric cancer early. The cumbersome methods of studying the gastric mucosa are mainly responsible for the fact that many patients who require such studies are not receiving them. Although the gastric cancer was diagnosed roentgenologically in more than 90% of the patients of this series, in many the roentgen examination took place at a stage when the condition was already too far advanced for cure. If gastrointestinal roentgen examinations had been done at an earlier date, the percentage of resectable cases would have been greater. Gastroscopy if carried out by those experienced in the method may prove helpful in questionable cases. Improved methods of examining the gastric mucosa are urgently needed. That delay in treatment contributes to the unfavorable prognosis is indicated by the fact that there was a time lag of four months between diagnosis and operation. The inadequacy of diagnosis is also illustrated by the fact that 37% of the patients had metastases on admission. Since cure by surgery is possible in early local cancers of the stomach, no improvement can be expected until these lesions are brought to operation, while they are locally removable. If the acid content is low and blood cells are found in the gastric contents, the patient should be regarded as having cancer, until proved otherwise. Cytological examination of gastric washings has proved of value only when the findings were positive. Although gastric malignancy requires adequate radical surgery, attempts to prevent regional node metastasis by routine total gastrectomy are not consistent with the anatomic relationships and are not compatible with the best interests of the patient. The prognosis of a patient with carcinoma of the stomach is equally poor in a large teaching hospital in New York City and in a general hospital in a city of 100,000 in Connecticut.

Journal of Clinical Investigation, New York

32:691-792 (Aug.) 1953

Antibody Response to Non-Streptococcal Antigens as Related to Rheumatic Fever Susceptibility. J. M. Miller, S. Kibrick and B. F. Massell.—p. 691.
Effects of Carbon Dioxide Inhalation upon Cerebral Blood Flow and Cerebral Oxygen Consumption in Vascular Disease. P. Novack, H. A. Shenkin, L. Bortin and others.—p. 696.
Estimation of Rate of Release of Adrenal 17-Hydroxycorticosteroids in Human Being by Venous Catheter Technique with Method for Determining Plasma 17-Hydroxycorticosteroids. P. K. Bondy and J. R. Altrock.—p. 703.
Cinnamic Acid as Test Substance in Evaluation of Liver Function. A. Saltzman and W. T. Caraway.—p. 711.
Cerebral Circulation and Metabolism in Pulmonary Emphysema and Fibrosis with Observations on Effects of Mild Exercise. P. Scheinberg, I. Blackburn, M. Saslaw and others.—p. 720.
Changes in Acid-Base Balance of Uremic Patients During Hemodialysis. J. M. Weller, R. C. Swan and J. P. Merrill.—p. 729.
Effect of an Impermeable Vapor Barrier on Electrolyte and Nitrogen Concentrations in Sweat. C. R. Kleeman, D. E. Bass and M. Quinn. —p. 736.
Tracer Experiments with I^{131} Labeled Human Serum Albumin: Distribution and Degradation Studies. S. A. Berson, R. S. Yalow, S. S. Schreiber and J. Post.—p. 746.
*Observations Concerning Clinical and Metabolic Effects of Corticosterone (Compound B) in Rheumatoid Arthritis. W. S. Clark, J. A. Blais and W. Bauer.—p. 769.
Further Study of Utilization of Dietary Glycine Nitrogen for Uric Acid Synthesis in Gout. J. D. Benedict, T. F. Yü, E. J. Bien and others.—p. 775.
Relation of Dietary Nitrogen Consumption to Rate of Uric Acid Synthesis in Normal and Gouty Man. E. J. Bien, T. F. Yü, J. D. Benedict and others.—p. 778.
*Studies on Interdependent Effects of Stress and Adrenal Cortex on Carbohydrate Metabolism in Man. T. W. Burns, F. L. Engel, A. Viau and others.—p. 781.

Effects of Corticosterone in Rheumatoid Arthritis.—The administration of corticosterone to one patient with rheumatoid arthritis caused marked sodium and chloride retention but had no antirheumatic effect. The appearance of knee involvement with effusion suggested an actual increase in the activity of the rheumatoid arthritis during treatment with corticosterone. Since the knee effusion continued beyond the period of posttreatment diuresis of sodium, they could not be attributed to sodium retention and probably represented a fluctuation in the natural course of the disease. Thus it would appear that corticosterone had neither a favorable nor unfavorable effect on the arthritis. No significant changes in carbohydrate tolerance or calcium and nitrogen excretion were evident from the administration of this hormone. Although the data indicated potassium retention, it is doubted that it was a definite hormone effect.

Interdependent Effects of Stress and Adrenal Cortex on Carbohydrate Metabolism.—A series of 280 glucose, insulin, and glucose-insulin tolerance tests were performed on 150 normal subjects and 53 patients in order to compare the effects of cortisone on carbohydrate metabolism in the presence and absence of the stress of illness. The observations made are considered to be compatible with the concept that there is an interaction between stress and adrenal hormone in modifying carbohydrate metabolism. They are not reconcilable with the view that the metabolic alterations during stress are direct consequences of adrenal cortical hypersecretion.

Journal of Immunology, Baltimore

71:1-40 (July) 1953

In-Vitro Purification of Tissue Localizing Antibodies. L. Korngold and D. Pressman.—p. 1.
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Bovine Erythrocyte Antigens: I. Effect of Time, Temperature and Concentration of Cells on Absorption of Antibodies from Isoimmune Serum. E. J. Lazear and L. C. Ferguson.—p. 12.
Id.: II. Quantitative Studies on Hemolytic Test. C. Cohen and L. C. Ferguson.—p. 15.
Id.: III. Isolation of Blood-Group Specific Substances from Erythrocytes. G. C. Royal, L. C. Ferguson and T. S. Sutton.—p. 22.
Action of Mustards on Interfering, Hemagglutinating and Eluting Capacities of Influenza A (PR8) Virus. J. Fong and B. Blum.—p. 26.
Persistence of Antigen in Mouse. J. O. Erickson, D. M. Armen and R. L. Libby.—p. 30.
Production of Influenza A Virus in Cells of Allantois. H. J. F. Cairns and P. J. Mason.—p. 38.

Journal Nat. Cancer Inst., Washington, D. C.

14:1-228 (Aug.) 1953. **Partial Index**

Endomitotic Reduplication Mechanisms in Ascites Tumors of Mouse. A. Levan and T. S. Hauschka.—p. 1.
Biological Studies on Stable and Radioactive Rare Earth Compounds: II. Effect of Lanthanum on Mice Bearing Ehrlich Ascites Tumor. R. Lewin, K. G. Stern, D. M. Ekstein and others.—p. 45.
Hepatomas in Mice on Diet Containing Bentonite. J. W. Wilson.—p. 65.
Induction of Ovarian Neoplasms Following Intrasplenic Transplantation of Ovarian Grafts to Old Castrated Mice. M. Klein.—p. 77.
Influence of Continued and Intermittent Painting with Croton Oil on Skin Tumorigenesis in Mice. M. Klein.—p. 83.
Tumors of Glandular Stomach Induced in Mice of Six Strains by Intramural Injection of 20-Methylcholanthrene. H. L. Stewart, W. V. Hare and J. G. Bennett.—p. 105.
Occurrence of Pulmonary Tumors in Mice of Strains A, B1, and SWR and Their F_1 Hybrids Following Intravenous Injection of 1,2,5,6-Dibenzanthracene. M. K. Deringer and W. E. Heston.—p. 127.
Occurrence of Tumors in Mice Injected Subcutaneously with Sulfur Mustard and Nitrogen Mustard. W. E. Heston.—p. 131.
Neoplasms in Rats Exposed to Single-Dose Total-Body X Radiation. J. C. Finerty, R. T. Binhammer, M. Schneider and A. W. B. Cunningham.—p. 149.
Neoplasms in Rats Protected Against Lethal Doses of Irradiation by Parabiosis or Para-Aminopropiophenone. G. Brecher, E. P. Cronkite and J. H. Peers.—p. 159.
Enzyme Changes Induced in Normal and Malignant Tissues with Chemical Agents: II. Effect of Various Compounds on Cytochrome Oxidase Activity of Transplanted Tumors. J. Leiter, A. D. Paradis and V. S. Waravdekar.—p. 177.
Effect of Ultracentrifugation and Hyaluronidase on Filtrability of Chick-Embryo Extract for Tissue Culture. J. C. Bryant, W. R. Earle and E. V. Pepers.—p. 189.

Journal of Nervous and Mental Disease, New York

117:95-190 (Feb.) 1953

Evaluation of Therapeutic Outcome in Mental Disorders. J. Zubin. —p. 95.
Present-Day Challenge to Psychiatrists. S. Rothenberg.—p. 112.
Catatonic Syndrome in Case of Subdural Hematoma. L. J. Micheels. —p. 123.
Psychogenic Gastrointestinal Disorder and Cephalalgia with Paradoxical Reactions to Hypnosis. J. M. Schneck.—p. 130.
*Amyotrophic Lateral Sclerosis: 50 Cases Observed on Guam. A. Arnold, D. C. Edgren and V. S. Palladino.—p. 135.
Investigations on Use of Cortical Stimulants with Sodium Amytal for Narcoanalysis. K. M. Keane and F. Kant.—p. 140.

Amyotrophic Lateral Sclerosis.—Arnold and associates observed, during a tour of duty on Guam, 50 cases of amyotrophic lateral sclerosis among 25,500 natives. The incidence of one case in each 510 natives appeared unusually high. Information obtained from leading neurologists indicated that incidence of one case to 50,000 persons was an approximate estimate of occurrence of this disease in the United States; thus, the frequency of amyotrophic lateral sclerosis among the natives of Guam was 100 times greater. Consanguinity was definitely not a factor. Many of the natives attributed their affliction to hard work, particularly to forced labor and inadequate diets during the Japanese occupation. Five patients were heavy drinkers of "tuba" made from the coconut; the remainder drank only moderately or not at all. Most of the older natives chewed betel nut, but no apparent relationship has been reported. Three patients recalled a febrile illness suggestive of encephalitis in their youth. None of the patients were affected by the epidemic of Japanese B encephalitis, which occurred on Guam during 1947 and 1948. Autopsy was done in seven, and microscopic examination of the spinal cords and brain stems confirmed the diagnosis of amyotrophic lateral sclerosis. The clinical pictures were classified according to the three groups recently suggested by Swank and Putnam: the complete or Charcot, the atypical, and the incomplete picture. The complete, or Charcot, form of the disease was present in 27 patients who showed amyotrophy, lateral column signs, and muscular fasciculations. Bulbar involvement, which eventually appeared in all patients of this type, ranged from occasional fasciculations and slight atrophy of the tongue to extensive facial wasting, marked atrophy and loss of strength to protrude the tongue, loss of speech, and impairment of swallowing. Eleven of these patients died. In all of the bulbar cases, amyotrophy had become so severe that only fluids could be taken and these with difficulty. Five patients were classified as having the incomplete type, and 18 as having the atypical type. These latter patients showed definite evidence of amyotrophic lateral sclerosis, but the distribution of involvement was unusual.

Journal of Thoracic Surgery, St. Louis

26:111-220 (Aug.) 1953

Hydatid Disease as It Affects the Thoracic Surgeon. M. P. Susman.—p. 111.

*Surgical Considerations in Focalized Pulmonary Histoplasmosis. J. H. Forsee, T. F. Pucket and F. E. Hagman.—p. 131.

Bilateral Bronchiectasis: Clinical and Physiologic Evaluation of Results of Surgical Treatment. E. P. Mannix Jr., F. Gerbasi, C. E. O'Brien and others.—p. 140.

Decisions in Thoracic Surgery as Influenced by Knowledge of Pulmonary Physiology. W. Woodruff, C. G. Merkel and G. W. Wright.—p. 156.

*Atrio-Septo-Pexy for Interatrial Septal Defects. C. P. Bailey, H. E. Bolton, W. L. Jamison and W. B. Neptune.—p. 184.

Surgical Consideration in Focalized Pulmonary Histoplasmosis.—Forsee and associates show that histoplasmosis is a fungus disease often manifested in the lungs. It is rather common in a benign form. Their interest developed as a result of experience in the surgical management of round pulmonary lesions such as tuberculoma and coccidioidoma in an Army hospital. As the focalized pulmonary lesions of histoplasmosis have become recognized, there has been a marked decline in the incidence of pulmonary lesions classified as tuberculoma in which the tubercle bacillus was not demonstrable. The authors have made the diagnosis of focalized pulmonary histoplasmosis in 30 patients following surgical exploration of the hemithorax and histopathological examination of excised pulmonary and mediastinal lesions. The age of the patients ranged from 20 to 48 years, and all but two were men. The authors regard it as noteworthy that 13 of the patients had been in Panama. Symptoms were either mild or absent; 14 of the 30 had no symptoms referable to the chest. In 12, the lesion was noted on a routine chest roentgenogram, and, in two, the discovery was made as a part of a study to ascertain the cause of epigastric distress. Among these, one patient had had roentgenographic evidence of the lesion for seven years, and two patients had had roentgenographic evidence of lesions for four years. Sixteen patients had symptoms referable to the chest, such as hemoptysis, productive cough, chest pain, and moderate loss of weight. The roentgenographic findings were those of any other so-called round or ovoid density within the lung or mediastinum. Sputum smears and cultures of sputum and gastric washings were repeatedly negative for acid-fast bacilli. With the use of the periodic-acid Schiff stain, Histoplasma capsulatum was identified in the excised pulmonary or mediastinal lymph node tissue in all patients. Cultures for H. capsulatum were positive in only one patient. The inability to culture the organisms from the focalized lesions is probably due to their inviability. The surgical excision was accomplished by wedge excision of the lung tissue containing the lesion in 23 patients. Two had lesions excised from more than one lobe, two were treated by segmental resection and two by lobectomy (right middle lobe). The excision of hilar lymph nodes alone led to the diagnosis in three patients. The recognition of histoplasmosis as a granulomatous pulmonary lesion, often focalized and benign, is a further aid in the diagnosis and therapy of the lesions within the lung and mediastinum, the nature of which cannot be ascertained without surgical exploration.

Atrio-Septo-Pexy for Interatrial Septal Defects.—Bailey and associates report that since their first presentation of atrio-septo-pexy for the correction of abnormal interatrial communication considerable additional experience has been gained in surgically treating such patients. While the original basic concept has proved to be sound, certain technical variations have been developed in order to manage the different clinical variants of this situation. The authors discuss the pathological anatomy, course, and prognosis of interatrial communications, explain the principle of atrio-septo-pexy, describe the technique of this method, and present the histories of 21 patients in whom they employed the method. The operation is a relatively simple surgical plastic procedure capable of closing nearly all types of atrial septal communications by bridging the defect with a portion of the invaginated right auricular wall. No significant interference with the flow of vena caval blood need be produced. The auriculoventricular valves need not be disturbed. Should it ever prove necessary to interrupt completely the superior vena caval flow, this can be tolerated if the azygos vein system is preserved intact. Associated lesions, such as coexisting mitral stenosis or anomalous entrance of the right pulmonary veins into the right atrium and/or superior vena cava, can and should be corrected at the time of closure of the defect. Coexisting total transposition of all pulmonary venous return probably requires a two-stage surgical procedure for its correction. Very low defects, such as persistent ostium primum, may require the addition of anterior-posterior approximating atrial mattress sutures, after the method of Murray. Great defects, such as single atrium, may be improved or corrected by a modification of Murray's technique. To date, the results obtained in correcting defects of the septum secundum have been reasonably satisfactory. Two deaths occurred in 14 patients with septum secundum defects. Clinical improvement was observed in all the survivors. In seven patients with persistent ostium primum, complete closure of the defect was accomplished in four instances. Three of the seven patients died, apparently as a result of unrelated factors, hypothermic depression of the myocardium, renal shutdown, and very poor condition. The surgical measure, itself, should not entail a great mortality.

Kentucky State Medical Assn. Journal, Bowling Green

51:277-326 (July) 1953

High Intestinal Obstruction in Newborn and Very Young Infants: Observations in Typical and Atypical Cases. C. M. Lee Jr.—p. 277.

Review of Modern Treatment of Burns. R. H. Moore Jr.—p. 285.

Complications of Complete Hysterectomy. W. O. Johnson.—p. 292.

Early Function in Treatment of Fractures of Upper Extremity. W. K. Massie.—p. 297.

51:327-378 (Aug.) 1953

Multiple Myeloma (Including Report of 11 Cases). P. J. Parks.—p. 351.

Diet and Arteriosclerosis, with Special Reference to Coronary Arteriosclerosis. A. Steiner.—p. 359.

Depression as Early Symptom of Severe Physical Illness. C. H. Crudden.—p. 363.

Abuses of Voluntary Health Insurance. E. D. Baumgarten.—p. 367.

Maine Medical Association Journal, Portland

44:183-226 (July) 1953

Management of Peptic Ulcer Disease. R. G. Metcalf.—p. 183.

Indications for Schoemaker-Billroth I Operation in Treatment of Peptic Ulcer. F. P. Turner.—p. 186.

Small Renal Cell Carcinoma Presenting As Solitary Cyst. M. Emanuel.—p. 192.

Metastatic Cerebral Tumors. E. L. Foote.—p. 195.

Thromboembolic Disease—Review. J. B. Danna.—p. 199.

Brief Discussion of Mycosis Fungoides with Case Report. M. D. Bryant Jr.—p. 203.

Maryland State Medical Journal, Baltimore

2:349-398 (July) 1953

Iron Deficiency Anemia. P. F. Wagley.—p. 351.

Acute Abdomen. P. Thorek.—p. 355.

SYMPOSIUM ON DIABETES

General Management. J. S. Eastland.—p. 363.

Juvenile Diabetes. H. G. Guild.—p. 366.

Diabetic Emergencies; Pre- and Postoperative Treatment. B. F. Jones.—p. 368.

Peripheral Vascular Disturbances. G. H. Yeager.—p. 375.

Nicotinic Acid Therapy in Vascoconstriction Type of Headache. Z. R. Morgan.—p. 377.

Michigan State Medical Society Journal, Lansing

52:689-808 (July) 1953

The Adenoid Problem. B. H. Senturia.—p. 721.

Program of Control and Treatment of Tuberculosis in Mental Institution. H. Duiker, A. L. Stanley, H. L. Weitz and R. P. Sheets.—p. 726.

Scope of Public Health. G. W. Anderson.—p. 730.

Use of Oral Metrazol in Psychosis with Cerebral Arteriosclerosis. E. J. Jensen and R. Leiser.—p. 734.

Emotional Attitudes of Adolescent. B. B. Stamell.—p. 737.

Psychosomatic Approach to Convulsive Disorders: Report from Michigan Epilepsy Center. H. W. Bird, Z. S. Bohn, R. V. Copeland and others.—p. 741.

FOREIGN

Acta Medica Scandinavica, Stockholm

145:393-474 (No. 6) 1953

Persistent Diphtheritic Heart Disorders: Follow-Up Investigation. J. Hoel and A. H. Berg.—p. 393.
Influence of Folic Acid on Nervous System in Pernicious Anemia: Experiences Relating to Pernicious Tapeworm Anemia. G. Björkenheim. —p. 406.
Transfusion Hemosiderosis: Report of Case Treated with BAL. W. T. L. Ohlsson, G. T. Kullendorff and L. K. Ljungberg.—p. 410.
Familial Occurrence of Fat-Containing Vacuoles in Leukocytes Diagnosed in Two Brothers Suffering from Dystrophia Musculorum Progressiva (ERB). G. H. W. Jordans.—p. 419.
*Primary Pulmonary Sarcoidosis: I. Early Signs and Symptoms. S. Löfgren.—p. 424.
Effects of ACTH on Hemoglobin Excretion in Normal Dogs. P. P. Lambert, F. Gregoire, J. P. Naets and C. de Heinzelin de Braucourt. —p. 432.
Arteritis Temporalis and ACTH. R. Schaerström.—p. 447.
Therapy in Restless Legs. N. B. Nordlander.—p. 453.
Anti-Streptococcal-Hyaluronidase: II. Turbidimetric Determination of Anti-Streptococcal-Hyaluronidase (ASH) in Serums of Normal Individuals. V. Faber.—p. 458.
*Primary Pulmonary Sarcoidosis: II. Clinical Course and Prognosis. S. Löfgren.—p. 465.

Primary Pulmonary Sarcoidosis.—The initial symptoms of primary pulmonary sarcoidosis were studied in 161 women and 51 men with bilateral hilar lymphoma syndrome, the most important feature of the primary stage of sarcoidosis. The term "lymph node stage" is, therefore, suggested for the initial stage. In 78 patients (37%) the paratracheal lymph nodes were also involved, usually on the right side, rarely on both sides, and in no instance on the left side alone. In 28 patients (13%) parenchymal lesions were also observed when the diagnosis was made. Erythema nodosum occurred in 107 women and 6 men. In this group of patients the incidence of fever, increased sedimentation rate, and articular symptoms, particularly of the ankles, was so high that these symptoms must be considered as typical. In 38 women and 32 men, sarcoidosis was detected on routine roentgen examination of the lungs. As a rule, these patients felt entirely comfortable and had a normal or only slightly increased sedimentation rate. There was an intermediate group of 29 patients in whom erythema nodosum was not present and in whom hilar lymphomas were observed on roentgen examination carried out because of other symptoms, such as cough, dyspnea, joint pain, or fever. The group of patients with erythema nodosum presented fairly consistently the acute stage of the disease and offered the best opportunity for studying the clinical aspect of primary sarcoidosis. The onset of the disease in patients belonging to the two other groups is more difficult to ascertain and these groups must be expected to comprise a certain number of cases more chronic in character. Patients were followed up from 2 to 16 years. In addition to the 28 patients with parenchymal lesions at the time the diagnosis was made, such lesions developed in 53 during the subsequent course of the disease. Of these 81 patients, shotty ("miliary") lesions were observed in 20, reticular in 22, a combination of these two types in 29, and patchy or coalescent lesions in 10. Of 111 patients with erythema nodosum who were available for follow-up examinations, 71 (64%) showed complete regression of both the lymphomas and the parenchymal lesions within one year and 102 (91.9%) within two years. In only nine patients (8.1%) was a chronic trend observed. For the two other groups of patients the prognosis was significantly poorer, probably because these groups comprised cases already in the chronic stage when the condition was recognized. Thus among 62 patients wtih bilateral hilar lymphomas detected on routine roentgen examination and who were followed up, 45 (72.6%) had a complete regression within two years and 17 showed a chronic trend; of 28 patients of the third group who were followed up, 20 (71.4%) had a complete regression within two years and 8 (28.6%) showed a chronic trend. Only one of all the patients with complete regression had a relapse. Tuberculosis supervened in only one of the 212 patients. Exudative pleurisy was never observed. Extrapulmonary manifestations of sarcoidosis were noted in only 26 (12%) of the 212 patients, but the real incidence of such lesions is probably higher. Except for the 13 patients with uveoparotitis 6 of whom showed a chronic trend, the extrapulmonary manifestations were generally mild and transient. In six patients with cutaneous or subcutaneous sarcoids that developed in old scars from accidents or operations the role of the traumatic factor in the causation of sarcoidotic manifestations was suggested.

Archivum Chirurgicum Neerlandicum, Arnhem

5:81-168 (No. 2) 1953. **Partial Index**

Protein Metabolism of Surgical Patients. F. E. Revers and C. Eikelenboom.—p. 81.
Arteriography by Retrograde Catheterization of Aorta in Renal Pathology. H. Muller.—p. 108.
Duodenal Obstruction Due to Malrotation of Intestine. L. W. van Ouwerkerk and H. M. C. Poortman.—p. 122.
Mediastinal Connective Tissue. W. A. Bax.—p. 131.
*Regional Enteritis. W. F. Suermondt.—p. 157.

Regional Enteritis.—Suermondt points out that lesions in the condition, which Crohn designated as terminal ileitis, are not necessarily limited to this region and, so, prefers the term "regional" to terminal ileitis. Reviewing previous reports and his own observations on 18 patients, he feels that the following factors are important in regional enteritis: 1. Regardless of the location, edema of a circumscribed part of the intestine and the mesentery is a characteristic symptom and an integral part of the morbid process, at least in the initial stages. Later stages are dominated by cellular infiltration of the tissues. 2. The disease is not caused by a specific inflammation. Only normal intestinal flora is found. There must, therefore, be a factor that enables the intestinal flora to infect a circumscribed part of the intestine. 3. Appendicitis plays no part in the etiology. 4. Regional ileitis may disappear spontaneously. 5. There are cases of recurrent attacks of abdominal pain and diarrhea, which develop into chronic regional enteritis, a process that requires surgical treatment. 6. Chronic regional enteritis is predominantly localized in the ileocecal part of the intestine (terminal ileitis in some 80% of cases). 7. Radical resection does not guarantee a definite cure. A relapse may occur several years after operation. The author explains why he regards allergic reactions as the primary cause of regional ileitis and shows that an allergic origin is in accordance with the seven points. The constantly repeated allergen-antibody reaction gives rise to allergic reactions in a circumscribed part of the intestine; this causes circulatory disturbances in the intestinal wall and angioneurotic edema, which results in constriction of the intestinal lumen and stagnation of the intestinal contents. As a result of the combination of these factors, the normal intestinal flora may secondarily cause an infection of this part of the intestine, which in turn gives rise to the clinical symptoms of regional enteritis. If possible, clinical and radiological diagnosis should be followed by radical resection. This technique should be preferred to enteroanastomosis—an intervention resorted to in cases in which resection is not feasible. The prognosis is not favorable, because new allergic reactions may give rise to relapses. In case of relapse, antihistamines can be given to prevent allergic reactions and antibiotics and sulfonamides to control the infection. An elimination diet is also advisable.

Beiträge zur klinischen Chirurgie, Munich

186:385-506 (No. 4) 1953. **Partial Index**

Question of Clinical Suitability of Fluorochromatizing of Malignant Tumor Cells for Attempted Early and Differential Diagnosis. K. Aderhold.—p. 385.
*Significance of Intravenous Protein Infusion in Man with Particular Consideration of Preparation "Adaequan." W. Grüning and H.-J. Wissfeld.—p. 400.
Deficient Blood Perfusion of Heart Muscle in Patient with Bleeding Gastric Ulcer. H. Kühne.—p. 418.
Technique of Bronchography Under Direct Vision with Bronchial Catheter Steered from Outside. F. Strnad and P. Bernhard.—p. 430.
Surgical Treatment of Islet Cell Adenoma of Pancreas. G. Kuhlgatz. —p. 444.
*Endangiitis Obliterans Associated with Simultaneously Occurring Necroses of All Four Extremities as Allergical Reaction to Treatment with Penicillin and Sulfonamide. M. A. Schmid.—p. 463.

Intravenous Infusion of Blood Proteins of Cattle in Man.—"Adaequan," a proprietary blood substitute protein preparation obtained from the blood of cattle, was given a therapeutic trial by intravenous infusion to 20 patients who had major operations on the abdomen or thorax. The blood protein levels of these patients were determined, before and after the administration of the preparation, by electrophoresis and balance computation with food tables and determination of nitrogen in the urine. Anaphylaxis did not result from the administration of Adaequan on repeated administration of 250 cc. of the preparation in one series or when the injections were repeated after a three to six weeks' interval. Four patients were given cattle plasma four to five weeks after the administration of Adaequan without untoward reactions. Adaequan, which, according to the information obtained from the manufacturing firm, consists predominantly of albumin and only small additional amounts of globulin, proved to have considerable oncotic activity and consequently may be recommended for patients who require restoration of the fluid reserve. A mild increase in the nitrogen elimination in the urine occurring in the first three days after the administration of Adaequan was considered as a manifestation of the gradual breaking up of the transmitted albuminous bodies. No conclusions could be drawn concerning the biological utilization of the animal proteins. None of the patients showed kidney impairment for which the protein foreign to the species could have been responsible. The results suggest that animal plasma, provided that it had been adequately prepared, may be used as a blood substitute for direct intravenous infusion in man.

Endangiitis Obliterans as Drug Allergy.—Endangiitis obliterans with simultaneous involvement of all four extremities and concomitant necrosis of all phalanges is reported in a 57-year-old man. The general consensus is that endangiitis obliterans is caused by a change in the reactivity of the vessels and the nervous system of the vessels to the allergic-hyperergic side. The author's patient had a congenital as well as an acquired tendency to allergic reactions, since his father had had hay fever and gout and the patient himself had had syphilis. He also had a blood sugar level of 130 to 160 mg. per 100 cc. and hypertension up to 225/130 mm. Hg. Shortly before the onset of the endangiitic manifestations he had an acute catarrhal infection and inflammation of the middle ear, two diseases that are well known to be capable of rapidly changing the condition of reactivity of an organism. For these diseases, the patient was given sulfamethazine and repository penicillin. Within a few days of this treatment, there developed, in both hands and legs of the patient, sudden disturbances in circulation manifested by blue-red spots; pain followed; and the hands and feet became insensitive. These changes increased rapidly and resulted in ulceration on the right foot and in disturbances of cerebral circulation manifested by an occasional diplopia and loss of memory. The simultaneous occurrence of these phenomena while sulfonamides and penicillin were being given was too obvious to be considered accidental. A cause and effect relationship between the endangiitis obliterans and the chemotherapy must be assumed. The assumption was proved by the fact that the patient's condition became suddenly worse when he was given another brand of penicillin three months after the first treatment with this antibiotic. Four days after discontinuation of the drug, the general condition of the patient improved and the necrosis of the fingers and toes, which progressed rapidly in the course of the treatment, was arrested. The positive results the patient had from three intracutaneous tests with penicillin and sulfamethazine furnished additional proof for the cause and effect relationship. The author cautions against the uncritical use of sulfonamides and penicillin.

British Journal of Ophthalmology, London

37:385-448 (July) 1953. **Partial Index**

Degenerations of Dog Retina: I. Structure and Development of Retina of Normal Dog. H. B. Parry.—p. 385.
Modification and Defence of Scleral Implant. W. H. Summerskill.—p. 415.
Ridley Intra-Ocular Acrylic Lens: Simplified Operative Technique. V. P. Patel.—p. 423.
Flicker Stimulation in Amblyopia. G. Parsons-Smith.—p. 424.
Secondary Glaucoma Due to Spontaneous Rupture of Lens Capsule. F. S. Hubbersty and J. S. Gourlay.—p. 432.
Measurement of Corneal Thickness and Its Application to Keratoplasty. A. Lister, A. S. Philps and M. Langham.—p. 436.

British Journal of Radiology, London

26:329-384 (July) 1953. **Partial Index**

Venography of Lower Limb. G. L. Gryspeerdt.—p. 329.
Practical Uses of Venography. F. B. Cockett.—p. 339.
Development of Rib Notching After Surgical Intervention in Congenital Heart Disease with Description of Two Cases. J. V. Kent.—p. 346.
Comparison of Radiographic Techniques with Special Reference to Dosage. G. M. Ardran and H. E. Crooks.—p. 352.
Further Observations on Friedlander's Osteomyelitis of Long Bones. M. Findlay and S. Skapinker.—p. 358.

British Journal of Tuberculosis, London

47:121-188 (July) 1953

*Problems of Tuberculosis in Industry: Study of Shoemaking Trade in Northamptonshire. A. Stewart.—p. 122.
Significance of Upper Lobe Atelectasis During Artificial Pneumothorax. G. L. Brinkman.—p. 131.
Some Unusual Manifestations of Bronchial Carcinoma. G. Flavell.—p. 135.
Problems of Diagnosis in Intrathoracic Disease: Three Chest Cases. G. E. Beaumont and D. G. James.—p. 142.
Bronchial Carcinoma in Dusty Occupations: Observations in Boiler Scalers and Grain Dockers. L. Dunner and M. S. Hicks.—p. 145.
Dangers of Chemotherapy in Pulmonary Tuberculosis: Report of Case of Acquired Hypersensitivity to Streptomycin and Para-Amino-Salicylic-Acid (P.A.S.). J. K. McKechnie.—p. 150.
Adenochondroma of Lung: Report of Five Cases. D. B. Brewer, V. S. Brookes and K. Valteris.—p. 156.
Sarcoidosis Proceeding to Open Pulmonary Tuberculosis, with Subsequent Recovery (with Report of Case). G. P. Maher-Loughnan.—p. 162.
Development of Arteriovenous Aneurysms in Lung. G. C. Cope.—p. 166.
Electrical Convulsive Therapy in Psychiatric Patients with Pulmonary Tuberculosis. M. Silverman.—p. 172.

Tuberculosis in the Shoemaking Industry.—Investigations in shoe factories in England suggested that "shoemakers' phthisis" was not an industrial disease, but merely an example of the sequence of events frequently associated with a laissez-faire policy toward the employment of tuberculous persons in industry. The relative excess of tuberculosis in the boot and shoe industry seems to be due to the presence of an exceptionally large number of tuberculosis carriers in the working population; the unequal distribution of cases within the industry is due to the fact that in large workshops the spread of infection from carriers to fellow workers is greater than in small ones. Since shoemaking is, for men, a relatively light occupation, the industry probably recruits more persons with established tuberculosis than most industries. For the same reason it probably permits men in whom the disease develops on the job to remain at work much longer than if the work were excessively strenuous. In this way, the carrier rate is still further augmented. Provided men with chronic phthisis work on their own, as do most shoe repairers, their presence causes no further harm to the industry as such. But if, as in the case of boot and shoe factory workers, they work in large groups, the disease spreads to others.

Bruxelles-Médical, Brussels

33:1391-1438 (July 5) 1953

Biological Hemostasis in Surgery, with a Study of Its Application in Neurosurgery. S. A. Gueukdjian.—p. 1401.
*Chorioangioma: Benign Tumor of the Placenta. J. Snoeck and P. Wilkin.—p. 1411.

Chorioangioma: Benign Tumor of the Placenta.—Many of the complications of pregnancy and many neonatal malformations formerly believed to be caused by the presence of a placental chorioangioma can now be explained by such phenomena as maternal isoimmunization. Prognosis is considered favorable for both mother and child, and no difficulty need be anticipated unless, as seldom happens, the tumor is so large that it causes dystocia or unless hydramnios leads to a premature interruption of the pregnancy. The difficulty of discovering small, deeply embedded tumors and diagnostic errors made in classifying placental chorioangiomas, which vary widely in histological type, have led to estimates of their frequency ranging from 1 in 700 to 1 in 9,000. Rapidly developing hydramnios and delivery of a premature (seven months) infant led to the discovery of a chorioangioma weighing 102 gm. on the maternal aspect of the placenta in a 32-year-old patient, para 3, whose two previous pregnancies had proceeded normally. The postpartum period was uneventful except for a moderate subinvolution of the uterus, and the infant's growth has been normal.

Deutsche medizinische Wochenschrift, Stuttgart

78:931-956 (June 26) 1953. Partial Index

*Complications During Transfusion of Stored Blood Caused by Toxins Forming in the Blood. L. Heilmeyer, P. Marquardt, E. Carl and M. Matthes.—p. 931.
Repetitiveness of Allergic Reaction in Human Subjects in Passive Local Anaphylaxis Experiment. R. Schleinzer.—p. 934.
Cardiac Insufficiency Caused by Masked Hyperthyroidism. R. Schwab and A. Reinwand.—p. 941.
Conservative Treatment of Fractures of Head of Humerus. H. Schultz. —p. 944.

Transfusion Complications Resulting from Toxins in Stored Blood.—Heilmeyer and associates first cite previous American and German reports on bacterial contaminants in transfused blood and the resulting serious complications including deaths. The organisms found in the blood in cases reported in the American literature were usually gram-negative organisms, whereas in the German reports gram-positive organisms were mentioned. Peripheral vascular collapse was the dominating clinical picture. Before presenting three cases of transfusion complications observed at their own clinic in Freiburg, the authors describe the procedure followed in storing blood in bottles and also the apparatus used for transfusion. The first of the three reported cases terminated in death. Subsequent examination of the stored blood was possible only in the first case. In the first case serologic incompatibility between the infused blood and that of the recipient could be ruled out by several tests, but bacteriological examination of the blood remaining in the bottle revealed gram-positive cocci. Blood group incompatibilities could also be ruled out in the other two patients with transfusion reactions. One of the authors searched for and found so-called "early" and "late" toxins in stored human blood. In discussing earlier reports on these toxins the authors say that the main problem, the pathogenesis of such toxins, has not been fully explained. Apathogenic organisms were found, but it was demonstrated experimentally that "early toxin" could be produced in plasma by enzymatic hydrolysis. It is assumed that "early toxin" is a product of protein decomposition. Such protein cleavage could be induced by substances in the blood itself, by substances that have been added, or by microorganisms, even if they are nonpathogenic. The authors do not mean to imply that "early toxin" is the only toxin that can produce shock after infusion of stored blood. They point out that histamine has been found in dried human plasma, and that, in dried serum, another, as yet unidentified substance, has been found. The authors emphasize that, even though careful matching of bloods has been carried out, the complications induced by mechanisms discussed in this report may be more frequent than those caused by blood group incompatibilities. They question the value of a proposed German law on blood donorship that disregards these factors.

Journal of the Indian Medical Association, Calcutta

22:393-432 (July) 1953. Partial Index

Diagnosis of Breast Cancer with Radioactive Phosphorus P_{32}. K. L. Bhattacharya, R. Datta-Chaudhury, A. Bose and N. N. Das-Gupta. —p. 393.
*Studies of Endemic Fluorosis (Visakhapatnam and Suburban Areas): Spinal Compression Due to Skeletal Fluorosis. G. V. Satyanarayana Murthi, D. Narayana Rao and P. Venkateswarlu.—p. 396.
Aureomycin in Treatment of Granuloma Inguinale. M. V. Krishnamurthi, C. Sobhanadri and C. N. Sowmini.—p. 402.
Pneumoperitoneum in Chronic Pulmonary Heart Disease. R. Heilig, B. S. Mital and R. K. Sharma.—p. 404.

Spinal Compression Due to Skeletal Fluorosis.—An earlier study on the distribution of fluorine in the waters of the Visakhapatnam district indicated that this region gave abundant opportunities for the study of endemic fluorosis. The history of a patient with advanced skeletal fluorosis is presented. The diagnosis was supported by signs of mottled enamel, osseous changes, such as exostoses and increased density of bones, high urinary excretion of fluoride, and the fact that the water in the village in which the patient had lived contained large quantities of fluorine. When the patient was hospitalized, there was tingling and numbness all over the body and inability to use the lower limbs. The present illness commenced six months prior to admission. The patient belonged to a poor family residing in the village Rolugunta in the Visakhapatnam district. He had a brother and an uncle who had stiff backs; his two children had mottling of teeth, which was quite prevalent among children in the locality. Motor power was poor in all four limbs, but definitely worse in the lower limbs. The gait was spastic-ataxic. These and other neurological changes were the result of compression of the spinal cord and nerves due to abnormal calcification and densification, which could be attributed to protracted ingestion of large amounts of fluorine in drinking water. This was the first case on record in this locality in which fluorosis gave rise to spinal compression. Investigation of the fluorine content of the different wells in the patient's home village suggested that skeletal impairment described as "stiff back" is found to be associated with consumption of water containing 10 ppm of fluorine. Fluorine concentration up to 4 ppm in domestic waters does not seem to constitute such a grave hazard.

Lancet, London

2:149-208 (July 25) 1953

Treatment of Eczema. J. A. Ingram.—p. 149.
*Chemotherapy of Pulmonary Tuberculosis. C. L. Joiner, K. S. Maclean, D. G. Chalmers and others.—p. 152.
*Bacteriological Control of Therapeutic Trials in Pulmonary Tuberculosis. P. Collard, K. Anderson, M. B. King and others.—p. 155.
An Endocrine Factor in Certain Affective Disorders. J. Malleson.—p. 158.
Virus and Virus Antigen in Blood of Smallpox Patients: Their Significance in Early Diagnosis and Prognosis. A. W. Downie, K. McCarthy, A. Macdonald and others.—p. 164.
Effect of Potassium Iodate on Endemic Goitre and Protein-Bound Iodine Levels in School-Children. N. S. Scrimshaw, A. Cabezas, F. Castillo and J. Méndez.—p. 166.
Ocular Manifestations of Varicella. W. P. Griffin and C. W. A. Searle. —p. 168.

Chemotherapy of Pulmonary Tuberculosis.—A year's trial was carried out on the action of isoniazid alone, isoniazid and streptomycin, and *p*-aminosalicylic acid and streptomycin in 68 patients with chronic pulmonary tuberculosis, most of whom had extensive and irreparable lung lesions. Twelve patients received 250 mg. of isoniazid daily for 18 weeks, and 11 were given 250 mg. of isoniazid daily and 1 gm. of streptomycin sulfate six times a week for 18 weeks. Both groups received a second course of treatment. Nine patients received 250 mg. of isoniazid daily and 1 gm. of streptomycin sulfate six times a week for 25 weeks, and nine other patients received 1 gm. of streptomycin sulfate six times a week and 10 gm. of *p*-aminosalicylic acid daily. A group of 13 patients received isoniazid, *p*-aminosalicylic acid, and streptomycin simultaneously, and the remaining patients a different combination of two of these drugs each month. Results confirmed that isoniazid alone has no place in the treatment of chronic pulmonary tuberculosis but that isoniazid and streptomycin given together have a definite therapeutic effect. Relapses after treatment with isoniazid and streptomycin were common, but retreatment with the same drugs appeared fully effective.

Bacteriological Control of Therapeutic Trials in Tuberculosis.—Specimens of sputum from the 68 patients with chronic pulmonary tuberculosis reported on in the same journal by Joiner and associates were examined by microscopy and culture. As long as the patients were receiving treatment, at least three specimens from each patient were examined each alternate week. The bacteriological results indicated that direct microscopic examination of the sputum is probably the most useful laboratory guide to response to chemotherapy, provided a rigid counting technique is maintained. The more frequent the observations (the number of specimens examined for each reading; for example, one, two, or three specimens per week), the smaller was the proportion of patients observed to be sputum-negative over a given period. The fewer the examinations, the greater was the apparent response to chemotherapy. The number of observations and spacing of readings are, therefore, factors of great importance in assessing the response of patients to chemotherapy. The success rate for culture of specimens that were positive on direct microscopy from patients on treatment (73%) was considerably lower than that from patients not receiving treatment (91%). Three possible causes are suggested. (1) the patients may be excreting bacilli which are already dead, (2) the concentration method may be the final insult to organisms already attacked by the drugs in use, and (3) it is possible that, despite washing, enough drug may be adsorbed on the bacterial cells to inhibit growth. The culture of isoniazid-resistant strains of Mycobacterium tuberculosis presented peculiar difficulties. The authors' experiments supported Fisher's view that resistant strains were dependent on a factor present in fraction V bovine albumin, but absent in crystalline albumin. The methods used at present for determining isoniazid sensitivities are unsatisfactory because they are time-consuming, not always accurate, and too slow in yielding results of value in the routine control of treatment. The authors' experience suggests that direct microscopic counts give a more rapid and sensitive index of progress and one of greater practical value.

Medical Journal of Australia, Sydney

1:797-832 (June 6) 1953. Partial Index

Active Immunization Against Tetanus. E. A. North and R. W. Patterson. —p. 797.
*Simultaneous Immunization of Infants Against Diphtheria and Tetanus. E. A. North and R. W. Patterson.—p. 800.
Method of Treatment of Traumatic Stricture of Common Bile Duct. H. Bullock.—p. 803.
Choledochoduodenostomy in Diseases Involving Biliary and Pancreatic Ducts. L. I. Burt.—p. 805.
Multiple Intestinal Infection. R. Mushin.—p. 807.
Ruptured Ectopic Pregnancy: Review of 48 Cases. B. L. Jones.—p. 809.

1:833-868 (June 13) 1953. Partial Index

Further Investigations into Aetiology of Glomerulonephritis. D. Bialestock.—p. 835.
Infective Hepatitis: Analysis of 1,000 Consecutive Notifications in Western Australia. D. J. R. Snow.—p. 838.
Established Breast Feeding. A. Cherry.—p. 844.
Effect in Vitro of Salicylates on Blood Sedimentation. G. A. W. Johnston and H. M. Whyte.—p. 845.
Folic Acid and Reproductive Efficiency. D. F. Lawson and C. N. DeGaris.—p. 848.
Influence of Hyaluronidase on Absorption from Colon. P. Hagen and K. W. Robinson.—p. 848.

Active Immunization Against Tetanus.—North and Patterson cite experiences among British, Canadian, and American troops, who had been immunized against tetanus, and among German and Japanese troops, who had not been immunized, as overwhelming evidence in favor of immunization. A conservative estimate of the serum antibody level necessary to give protection against tetanus may be taken as 0.1 to 0.2 unit per milliliter. Such a level has been found in the blood of subjects up to at least nine years after an adequate initial immunization, which includes a "routine stimulating" infection of toxoid after 12 months. The authors feel that, on the evidence presented in this paper, the following principles should be accepted regarding active immunization in civilian practice: 1. A basic course of three injections of fluid toxoid or of two injections of a toxoid containing a mineral carrier should be given. 2. These injections should be followed by a "routine stimulating" injection of toxoid about 12 months later. 3. No further "stimulating" (booster) dose of toxoid should be necessary for at least five years except in the event of injury. 4. After minor injuries the patient should immediately receive an "emergency booster" dose of toxoid if the injury occurs six months or more after completion of the basic course or six months or more after a "stimulating" dose. 5. In the case of severe wounds, especially those of the deep penetrating type, and when there is severe shock, both toxoid and antitoxin should be given immediately in separate syringes and at separate sites. 6. If there is any doubt as to whether a patient has been adequately actively immunized, antitoxin should always be given. 7. When a person has been actively immunized against tetanus, he (or the guardian in the case of a child) should be given a certificate to that effect.

Medicina, Buenos Aires

13:139-198 (June) 1953. Partial Index

*Rheumatic Cardiopathy and Cor Pulmonale. A. C. Taquini and B. B. Lozada.—p. 139.
Urinary Elimination of 17-Ketosteroids in Thyroid Insufficiency. C. V. Colque, S. Wais, J. M. Martin and E. E. Trucco.—p. 164.
Stenosis of Esophagus in Tuberculosis. J. H. Resano, J. C. Re, M. Malenchini and R. de Diego.—p. 182.

Rheumatic Cardiopathy and Cor Pulmonale.—Observations on 630 patients with rheumatic cardiopathy who were treated in the cardiology center of Buenos Aires during a period of years are reported. Chronic cor pulmonale was observed in 24 (3.8%) patients: in 17 out of 77 with mitral stenosis (22%), in 5 out of 163 with double mitral lesions (3%), in 1 out of 22 with tricuspid and mitral lesions (4%), and in 1 out of 17 with tricuspid, aortic, and mitral lesions (6%). Patients with mitral insufficiency, pure aortic lesions, and combined mitral and aortic lesions did not show the coexistence of cor pulmonale. The authors believe that there is a correlation between mitral stenosis and cor pulmonale from overloading of the right ventricle. An early diagnosis of mitral stenosis of rheumatic origin is of importance for selecting patients for surgical intervention, at a time in which the hemodynamic conditions are still reversible. In advanced cases, surgical intervention is of no avail, since definite anatomic changes have already occurred, through which pulmonary hypertension and the consequent overload of the right ventricle are maintained.

Policlinico (Surg. Sect.), Rome

60:137-198 (June) 1953

Blood Circulation in Bones and Antibiotic Therapy in Osteomyelitis. G. Favacchio.—p. 137.
Amount of Oxygen Used by Patients with Congenital Heart Disease. G. F. Della Penna.—p. 154.
*Interventions on Sympathetic in Acute and Chronic Pancreatitis: Experimental Studies. G. Brancadoro and G. Cecchi.—p. 162.
*Study of Hypophysial-Adrenal Function in Postoperative State: Eosinophilia Test. G. Grassi, L. Pirovano and V. Valenti.—p. 177.

Treatment of Hepatitis by Intervention on Sympathetic Nerves.—Experiments on dogs revealed that bilateral sympathetic nerve block is the best treatment for acute pancreatitis, and bilateral splanchnicectomy for chronic pancreatitis. After acute pancreatitis was produced in eight dogs, bilateral splanchnicectomy was performed in three of them (one had died) one, three, and six hours, respectively, after onset of the disease. The sympathetic nerve was blocked in the other four dogs by injecting 80 to 100 cc. of 0.5% procaine bilaterally into the paravertebral area between the seventh thoracic and the second lumbar vertebrae every six hours by the posterior route. The animals were killed 24 hours after the interventions. Two other dogs that were kept as controls died 8 and 15 hours, respectively, after the disease had developed. Chronic pancreatitis was produced in seven dogs, and they were given a normal diet (milk, meat, and bread) for the entire period of the experiment. Thirty days after the onset of the disease, bilateral splanchnicectomy was performed in three of these dogs, while the sympathetic nerves were blocked in the other four as in the dogs of the first group. The blocking was repeated every day for 30 days, and all the dogs were killed 30 to 40 days after the onset of the disease. Macroscopic and microscopic examinations revealed that bilateral sympathetic nerve block had good effects on the dogs with acute pancreatitis. Clinically, pain and anguish disappeared, the circulation improved, and urination became more profuse; histologically, the intraparenchymatous alterations were restored to normal. This may be ascribed to a temporary inhibiting action of the anesthetic on the neurohormonal activity of the gland and to the improved arteriocapillary circulation. The same method had no effect, however, on the dogs with chronic pancreatitis; their clinical and histological picture remained unchanged. Bilateral splanchnicectomy impaired the pancreatic function in the dogs with acute pancreatitis, but gave good results in the dogs with chronic pancreatitis. It restored to normal the function and structure of the acini and the parenchyma that had been partly destroyed.

Thorn's Test in Postoperative Patients.—Thorn's test was performed repeatedly in patients who had undergone surgery for severe lesions of the stomach, abdomen, thorax, and lower extremities. The circulating eosinophils were counted immediately before the intervention, 1 and 24 hours after the intervention, on the third postoperative day, and every three days thereafter to the 10th day. The number of eosinophils dropped in all patients one hour after the operation. There was always a ratio between the eosinopenia and the type of intervention regardless of the age and sex of the patient. The eosinopenia was always severest on the first postoperative day and lasted for from four to seven days. After that time the number of eosinophils increased abruptly and became greater than the initial values in some instances. Disturbances and complications occurring postoperatively affected the number of circulating eosinophils. Since the results of Thorn's test indicate the way in which patients react to surgical interventions, it may become a good adjuvant in the diagnosis and prognosis of postoperative states.

Schweizerische medizinische Wochenschrift, Basel

83:571-590 (June 20) 1953. Partial Index

Therapy of Perforated Ulcers of Duodenum and Stomach. P. Häberlin.—p. 571.
*Experiences with Serologic Diagnoses of Human Brucellosis by the Blocking and Coombs Tests. H. Fey and F. Bürki.—p. 573.
*Periarteritis Nodosa. H. Fahrländer.—p. 575.
Respiratory Dead Space and Alveolar Clearance. P. H. Rossier, A. Bühlmann and H. R. Müller.—p. 577.

Serologic Diagnosis of Human Brucellosis.—Ordinary agglutination for brucellosis antibodies may fail even when brucellosis is strongly suspected. Additional diagnostic procedures, such as complement fixation and skin tests are employed, the more so since blood cultures for Brucella organisms largely depend on accidents. Three serologic tests were used in 219 patients with brucellosis studied at the clinic in Zurich. They were the agglutination test (Widal-Wright reaction), the blocking test, and the modified Coombs test. In 18 of these 219 patients, prozones were detected. Since prozones represent specific phenomena of immunity they are particularly important since they make possible a serologic diagnosis of brucellosis in cases in which the ordinary Widal-Wright reaction is negative. For this reason it is advisable to begin with serum solutions of one-fourth or one-fifth because prozones usually appear only in these low solutions. The Widal-Wright reaction would have been regarded as negative in these cases, because, when it is performed, dilution is usually begun at 1:20, and only a positive agglutination at 1:80 or 1:100 is regarded as diagnostic in human serum. The presence of prozones permits a positive serologic diagnosis. The 219 serums included also 19 in which the Widal-Wright reaction was negative up to 1:1,280, whereas the blocking and Coombs tests were positive 18 times and the Coombs test was positive alone in the 19th case. The authors describe the principle of the blocking test and of the modified Coombs test and stress that the serum of patients in whom brucellosis is suspected should be examined for blocking antibodies with either the blocking test and/or the modified Coombs test.

Periarteritis Nodosa.—Fahrländer points out that periarteritis nodosa is classified with the diseases of the connective tissue apparatus, which are also designated as collagen diseases. This concept does not imply that the diseases belonging to this group are all elicited by a hyperergic process. The large majority of cases of periarteritis are not allergic, and they are rarely primary diseases. They frequently begin with an infection of the upper air passages that is followed after an interval of time by a periarteritic process. In addition to general symptoms, such as anorexia, fever, leukocytosis, and prostration, there are manifestations that depend on the organs involved. The kidneys, pancreas, urogenital system, and spleen are nearly always involved and the skin, muscles, and joints, frequently. Besides skin changes, symptoms involving the peripheral nervous system often facilitate the diagnosis. The author presents three cases of periarteritis nodosa that were treated with corticotropin. One of these cases was verified by autopsy and the other two by biopsy. In the first patient, in whom the periarteritis nodosa involved skin, peripheral nerves, kidneys, and possibly the mesenteric vessels, an attack of bronchial asthma preceded the periarteritis. Treatment with corticotropin resulted in a reduction of fever and eosinophilia, but there was no improvement in the neuritis. A new attack involved the pleura. The arteritic process apparently was not influenced by the corticotropin. In the second patient, polyarthritis and multiple subcutaneous nodules developed, but neither renal changes nor hypertension were observed. The temperature was constantly elevated. Under the influence of corticotropin therapy, fever and articular symptoms subsided, the general condition improved, but the cutaneous eruption disappeared only partly, and new attacks followed. In the third patient, the periarteritic changes followed an infection of the upper respiratory passages. Despite treatment with corticotropin, the process progressed in the vasa nervorum and in the subcutaneous tissues as well as in the choroid. The presumably periarteritic changes in the lungs disappeared under the influence of corticotropin. That the adrenal cortex responded to the hypophysial hormone is proved by the complete disappearance of the eosinophils from the circulating blood. These cases contribute nothing to the still unsolved problem of the etiology of periarteritis nodosa. Classification into allergic and hypertensive symptoms applied only to case 1, which began with bronchial asthma, but in this case as in the others hypertension was absent at the beginning of the disorder. In the third case hypertension did develop, but only late, as a sequel of serious renal damage. Only some of the symptoms responded to treatment with corticotropin, and all patients experienced new attacks, thus there was no curative effect.

Thorax, London

8:87-166 (June) 1953

Oesophagus Lined with Gastric Mucous Membrane. P. R. Allison and A. S. Johnstone.—p. 87.
Atresia of Oesophagus with an Abnormal Tracheal Fold. R. H. Franklin and A. J. P. Graham.—p. 102.
*Prognosis for Contralateral Lung After Resection for Pulmonary Tuberculosis. M. R. Geake and F. H. Young.—p. 104.
Thoracoplasty and Contralateral Pneumothorax. R. A. Smith.—p. 106.
Long-Term Follow-Up of Thoracoplasty Cases. F. R. Edwards, G. Leggat and H. M. Davies.—p. 114.
New Approach to Pulmonary Emphysema. O. A. Abbott, W. A. Hopkins, W. E. Van Fleit and J. S. Robinson.—p. 116.
Case of Unilateral Pulmonary Emphysema. P. R. Swyer and G. C. W. James.—p. 133.
Deaths from Asthma in England and Wales. D. A. Williams.—p. 137.
Cystic Enlargement of Mucous Glands of Bronchus Associated with Chronic Bronchitis. A. Duprez and R. Mampuys.—p. 141.
Localized Bilharzial Granuloma of Lung Simulating Tumour. S. H. El Mallah and M. Hashem.—p. 148.
*Blood Supply of Malignant Pulmonary Neoplasms. L. Cudkowicz and J. B. Armstrong.—p. 152.
Choriocarcinoma Arising in Male Mediastinum. M. J. G. Lynch and G. L. Blewett.—p. 157.
Case of Retrosternal Diaphragmatic Hernia. R. Warwick-Brown.—p. 162.
Haemoptysis as an Indication for Bronchoscopy. S. J. MacHale.—p. 164.

Prognosis of Contralateral Lung After Resection.—The records of 101 patients who had survived more than three months after pulmonary resection for tuberculosis were studied. The aim was to elucidate factors leading to later deterioration in the contralateral lung. Deterioration occurred in 11 of 101 patients. It was more frequent with disease of recent origin in the contralateral lung. No evidence was discovered that indicated that the extent of disease in the resected lung or length of history had any appreciable influence. If deterioration is to take place, it is probable that it will occur within the 12 months following the operation.

Blood Supply of Malignant Pulmonary Neoplasms.—Cudkowicz and Armstrong examined the bronchial arteries of patients with malignant neoplasms with the aid of an injection of a radiopaque material. A diffuse proliferative bronchial arterial pattern extending to the tumors was demonstrable in four cases.

tions, the greater was the apparent response to chemotherapy. The number of observations and spacing of readings are, therefore, factors of great importance in assessing the response of patients to chemotherapy. The success rate for culture of specimens that were positive on direct microscopy from patients on treatment (73%) was considerably lower than that from patients not receiving treatment (91%). Three possible causes are suggested. (1) the patients may be excreting bacilli which are already dead, (2) the concentration method may be the final insult to organisms already attacked by the drugs in use, and (3) it is possible that, despite washing, enough drug may be adsorbed on the bacterial cells to inhibit growth. The culture of isoniazid-resistant strains of Mycobacterium tuberculosis presented peculiar difficulties. The authors' experiments supported Fisher's view that resistant strains were dependent on a factor present in fraction V bovine albumin, but absent in crystalline albumin. The methods used at present for determining isoniazid sensitivities are unsatisfactory because they are time-consuming, not always accurate, and too slow in yielding results of value in the routine control of treatment. The authors' experience suggests that direct microscopic counts give a more rapid and sensitive index of progress and one of greater practical value.

Medical Journal of Australia, Sydney

1:797-832 (June 6) 1953. Partial Index

Active Immunization Against Tetanus. E. A. North and R. W. Patterson. —p. 797.
*Simultaneous Immunization of Infants Against Diphtheria and Tetanus. E. A. North and R. W. Patterson.—p. 800.
Method of Treatment of Traumatic Stricture of Common Bile Duct. H. Bullock.—p. 803.
Choledochoduodenostomy in Diseases Involving Biliary and Pancreatic Ducts. L. I. Burt.—p. 805.
Multiple Intestinal Infection. R. Mushin.—p. 807.
Ruptured Ectopic Pregnancy: Review of 48 Cases. B. L. Jones.—p. 809.

1:833-868 (June 13) 1953. Partial Index

Further Investigations into Aetiology of Glomerulonephritis. D. Bialestock.—p. 835.
Infective Hepatitis: Analysis of 1,000 Consecutive Notifications in Western Australia. D. J. R. Snow.—p. 838.
Established Breast Feeding. A. Cherry.—p. 844.
Effect in Vitro of Salicylates on Blood Sedimentation. G. A. W. Johnston and H. M. Whyte.—p. 845.
Folic Acid and Reproductive Efficiency. D. F. Lawson and C. N. DeGaris.—p. 848.
Influence of Hyaluronidase on Absorption from Colon. P. Hagen and K. W. Robinson.—p. 848.

Active Immunization Against Tetanus.—North and Patterson cite experiences among British, Canadian, and American troops, who had been immunized against tetanus, and among German and Japanese troops, who had not been immunized, as overwhelming evidence in favor of immunization. A conservative estimate of the serum antibody level necessary to give protection against tetanus may be taken as 0.1 to 0.2 unit per milliliter. Such a level has been found in the blood of subjects up to at least nine years after an adequate initial immunization, which includes a "routine stimulating" infection of toxoid after 12 months. The authors feel that, on the evidence presented in this paper, the following principles should be accepted regarding active immunization in civilian practice: 1. A basic course of three injections of fluid toxoid or of two injections of a toxoid containing a mineral carrier should be given. 2. These injections should be followed by a "routine stimulating" injection of toxoid about 12 months later. 3. No further "stimulating" (booster) dose of toxoid should be necessary for at least five years except in the event of injury. 4. After minor injuries the patient should immediately receive an "emergency booster" dose of toxoid if the injury occurs six months or more after completion of the basic course or six months or more after a "stimulating" dose. 5. In the case of severe wounds, especially those of the deep penetrating type, and when there is severe shock, both toxoid and antitoxin should be given immediately in separate syringes and at separate sites. 6. If there is any doubt as to whether a patient has been adequately actively immunized, antitoxin should always be given. 7. When a pers has been actively immunized against tetanus, he (or the guardian in the case of a child) should be given a certificate to the effect.

Medicina, Buenos Aires

13:139-198 (June) 1953. Partial Index

*Rheumatic Cardiopathy and Cor Pulmonale. A. C. Taquini and B. J. Lozada.—p. 139.
Urinary Elimination of 17-Ketosteroids in Thyroid Insufficiency. C. V. Colque, S. Wais, J. M. Martin and E. E. Trucco.—p. 164.
Stenosis of Esophagus in Tuberculosis. J. H. Resano, J. C. Re, M. Malenchini and R. de Diego.—p. 182.

Rheumatic Cardiopathy and Cor Pulmonale.—Observations on 630 patients with rheumatic cardiopathy who were treated in the cardiology center of Buenos Aires during a period of [illegible] years are reported. Chronic cor pulmonale was observed in 24 (3.8%) patients: in 17 out of 77 with mitral stenosis (22%), in 5 out of 163 with double mitral lesions (3%), in 1 out of 22 with tricuspid and mitral lesions (4%), and in 1 out of [illegible] with tricuspid, aortic, and mitral lesions (6%). Patients with mitral insufficiency, pure aortic lesions, and combined mitral and aortic lesions did not show the coexistence of cor pulmonale. The authors believe that there is a correlation between mitral stenosis and cor pulmonale from overloading of the right ventricle. An early diagnosis of mitral stenosis of rheumatic origin is of importance for selecting patients for surgical intervention, at a time in which the hemodynamic conditions are still reversible. In advanced cases, surgical intervention is of no avail, since definite anatomic changes have already occurred, through which pulmonary hypertension and the consequent overload of the right ventricle are maintained.

Policlinico (Surg. Sect.), Rome

60:137-198 (June) 1953

Blood Circulation in Bones and Antibiotic Therapy in Osteomyelitis G. Favacchio.—p. 137.
Amount of Oxygen Used by Patients with Congenital Heart Disease. G. F. Della Penna.—p. 154.
*Interventions on Sympathetic in Acute and Chronic Pancreatitis: Experimental Studies. G. Brancadoro and G. Cecchi.—p. 162.
*Study of Hypophysial-Adrenal Function in Postoperative State: Eosinophilia Test. G. Grassi, L. Pirovano and V. Valenti.—p. 177.

Treatment of Hepatitis by Intervention on Sympathetic Nerves.—Experiments on dogs revealed that bilateral sympathetic nerve block is the best treatment for acute pancreatitis, and bilateral splanchnicectomy for chronic pancreatitis. After acute pancreatitis was produced in eight dogs, bilateral splanchnicectomy was performed in three of them (one had died) one, three, and six hours, respectively, after onset of the disease. The sympathetic nerve was blocked in the other four dogs by injecting 80 to 100 cc. of 0.5% procaine bilaterally into the paravertebral area between the seventh thoracic and the second lumbar vertebrae every six hours by the posterior route. The animals were killed 24 hours after the interventions. Two other dogs that were kept as controls died 8 and 15 hours, respectively, after the disease had developed. Chronic pancreatitis was produced in seven dogs, and they were given a normal diet (milk, meat, and bread) for the entire period of the experiment. Thirty days after the onset of the disease, bilateral splanchnicectomy was performed in three of these dogs, while the sympathetic nerves were blocked in the other four as in the dogs of the first group. The blocking was repeated every day for 30 days, and all the dogs were killed 30 to 40 days after the onset of the disease. Macroscopic and microscopic examinations revealed that bilateral sympathetic nerve block had good effects on the dogs with acute pancreatitis. Clinically, pain and anguish disappeared, the circulation improved, and urination became more profuse; histologically, the intraparenchymatous alterations were restored to normal. This may be ascribed to a temporary inhibiting action of the anesthetic on the neurohormonal activity of the gland and to the improved arteriocapillary circulation. The same method had no effect, however, on the dogs with chronic pancreatitis; their clinical and histological picture remained unchanged. Bilateral splanchnicectomy impaired the pancreatic function in the dogs with acute pancreatitis, but gave good results in the dogs with chronic pancreatitis. It restored to normal the function and structure of the acini and the parenchyma that had been partly destroyed.

Thorn's Test in Postoperative Patients.—Thorn's test was performed repeatedly in patients who had undergone surgery for severe lesions of the stomach, abdomen, thorax, and lower extremities. The circulating eosinophils were counted immediately before the intervention, 1 and 24 hours after the intervention, on the third postoperative day, and every three days thereafter to the 10th day. The number of eosinophils dropped in all patients one hour after the operation. There was always a ratio between the eosinopenia and the type of intervention regardless of the age and sex of the patient. The eosinopenia was always severest on the first postoperative day and lasted for from four to seven days. After that time the number of eosinophils increased abruptly and became greater than the initial values in some instances. Disturbances and complications occurring postoperatively affected the number of circulating eosinophils. Since the results of Thorn's test indicate the way in which patients react to surgical interventions, it may become a good adjuvant in the diagnosis and prognosis of postoperative states.

Schweizerische medizinische Wochenschrift, Basel

83:571-590 (June 20) 1953. Partial Index

Therapy of Perforated Ulcers of Duodenum and Stomach. P. Häberlin. —p. 571.
*Experiences with Serologic Diagnoses of Human Brucellosis by the Blocking and Coombs Tests. H. Fey and F. Bürki.—p. 573.
*Periarteritis Nodosa. H. Fahrländer.—p. 575.
Respiratory Dead Space and Alveolar Clearance. P. H. Rossier, A. Bühlmann and H. R. Müller.—p. 577.

Serologic Diagnosis of Human Brucellosis.—Ordinary agglutination for brucellosis antibodies may fail even when brucellosis is strongly suspected. Additional diagnostic procedures, such as complement fixation and skin tests are employed, the more so since blood cultures for Brucella organisms largely depend on accidents. Three serologic tests were used in 219 patients with brucellosis studied at the clinic in Zurich. They were the agglutination test (Widal-Wright reaction), the blocking test, and the modified Coombs test. In 18 of these 219 patients, prozones were detected. Since prozones represent specific phenomena of immunity they are particularly important since they make possible a serologic diagnosis of brucellosis in cases in which the ordinary Widal-Wright reaction is negative. For this reason it is advisable to begin with serum solutions of one-fourth or one-fifth because prozones usually appear only in these low solutions. The Widal-Wright reaction would have been regarded as negative in these cases, because, when it is performed, dilution is usually begun at 1:20, and only a positive agglutination at 1:80 or 1:100 is regarded as diagnostic in human serum. The presence of prozones permits a positive serologic diagnosis. The 219 serums included also 19 in which the Widal-Wright reaction was negative up to 1:1,280, whereas the blocking and Coombs tests were positive 18 times and the Coombs test was positive alone in the 19th case. The authors describe the principle of the blocking test and of the modified Coombs test and stress that the serum of patients in whom brucellosis is suspected should be examined for blocking antibodies with either the blocking test and/or the modified Coombs test.

Periarteritis Nodosa.—Fahrländer points out that periarteritis nodosa is classified with the diseases of the connective tissue apparatus, which are also designated as collagen diseases. This concept does not imply that the diseases belonging to this group are all elicited by a hyperergic process. The large majority of cases of periarteritis are not allergic, and they are rarely primary diseases. They frequently begin with an infection of the upper air passages that is followed after an interval of time by a periarteritic process. In addition to general symptoms, such as anorexia, fever, leukocytosis, and prostration, there are manifestations that depend on the organs involved. The kidneys, pancreas, urogenital system, and spleen are nearly always involved and the skin, muscles, and joints, frequently. Besides skin changes, symptoms involving the peripheral nervous system often facilitate the diagnosis. The author presents three cases of periarteritis nodosa that were treated with corticotropin. One of these cases was verified by autopsy and the other two by biopsy. In the first patient, in whom the periarteritis nodosa involved skin, peripheral nerves, kidneys, and possibly the mesenteric vessels, an attack of bronchial asthma preceded the periarteritis. Treatment with corticotropin resulted in a reduction of fever and eosinophilia, but there was no improvement in the neuritis. A new attack involved the pleura. The arteritic process apparently was not influenced by the corticotropin. In the second patient, polyarthritis and multiple subcutaneous nodules developed, but neither renal changes nor hypertension were observed. The temperature was constantly elevated. Under the influence of corticotropin therapy, fever and articular symptoms subsided, the general condition improved, but the cutaneous eruption disappeared only partly, and new attacks followed. In the third patient, the periarteritic changes followed an infection of the upper respiratory passages. Despite treatment with corticotropin, the process progressed in the vasa nervorum and in the subcutaneous tissues as well as in the choroid. The presumably periarteritic changes in the lungs disappeared under the influence of corticotropin. That the adrenal cortex responded to the hypophysial hormone is proved by the complete disappearance of the eosinophils from the circulating blood. These cases contribute nothing to the still unsolved problem of the etiology of periarteritis nodosa. Classification into allergic and hypertensive symptoms applied only to case 1, which began with bronchial asthma, but in this case as in the others hypertension was absent at the beginning of the disorder. In the third case hypertension did develop, but only late, as a sequel of serious renal damage. Only some of the symptoms responded to treatment with corticotropin, and all patients experienced new attacks, thus there was no curative effect.

Thorax, London

8:87-166 (June) 1953

Oesophagus Lined with Gastric Mucous Membrane. P. R. Allison and A. S. Johnstone.—p. 87.
Atresia of Oesophagus with an Abnormal Tracheal Fold. R. H. Franklin and A. J. P. Graham.—p. 102.
*Prognosis for Contralateral Lung After Resection for Pulmonary Tuberculosis. M. R. Geake and F. H. Young.—p. 104.
Thoracoplasty and Contralateral Pneumothorax. R. A. Smith.—p. 106.
Long-Term Follow-Up of Thoracoplasty Cases. F. R. Edwards, G. Leggat and H. M. Davies.—p. 114.
New Approach to Pulmonary Emphysema. O. A. Abbott, W. A. Hopkins, W. E. Van Fleit and J. S. Robinson.—p. 116.
Case of Unilateral Pulmonary Emphysema. P. R. Swyer and G. C. W. James.—p. 133.
Deaths from Asthma in England and Wales. D. A. Williams.—p. 137.
Cystic Enlargement of Mucous Glands of Bronchus Associated with Chronic Bronchitis. A. Duprez and R. Mampuys.—p. 141.
Localized Bilharzial Granuloma of Lung Simulating Tumour. S. H. El Mallah and M. Hashem.—p. 148.
*Blood Supply of Malignant Pulmonary Neoplasms. L. Cudkowicz and J. B. Armstrong.—p. 152.
Choriocarcinoma Arising in Male Mediastinum. M. J. G. Lynch and G. L. Blewett.—p. 157.
Case of Retrosternal Diaphragmatic Hernia. R. Warwick-Brown.—p. 162.
Haemoptysis as an Indication for Bronchoscopy. S. J. MacHale.—p. 164.

Prognosis of Contralateral Lung After Resection.—The records of 101 patients who had survived more than three months after pulmonary resection for tuberculosis were studied. The aim was to elucidate factors leading to later deterioration in the contralateral lung. Deterioration occurred in 11 of 101 patients. It was more frequent with disease of recent origin in the contralateral lung. No evidence was discovered that indicated that the extent of disease in the resected lung or length of history had any appreciable influence. If deterioration is to take place, it is probable that it will occur within the 12 months following the operation.

Blood Supply of Malignant Pulmonary Neoplasms.—Cudkowicz and Armstrong examined the bronchial arteries of patients with malignant neoplasms with the aid of an injection of a radiopaque material. A diffuse proliferative bronchial arterial pattern extending to the tumors was demonstrable in four cases of bronchial carcinoma. Large dilated lacunae derived from the bronchial arteries were seen in the tumors. No corresponding changes in the bronchial arteries were observed in two cases of metastatic lung tumor. This evidence supports the observations by Wood and Miller in 1938, when they found proliferative changes in the bronchial arteries only in primary bronchial tumors. Their contention that hemoptysis comes from the bronchial arteries may well be true in view of the large and thin-walled lacunae in the tumor substance that, in the lesions described here, were in continuity with enlarged bronchial arteries. Presumably the pressure in these dilated vascular channels must be high and would exceed the pressure in similar blood spaces derived from the pulmonary arteries. The association of hypertrophic pulmonary osteoarthropathy with bronchial carcinoma is well recognized, and it is of interest that in two of the cases observed by the authors, in which clubbing was prominent, thrombosis and recanalization of pulmonary artery branches by the vasa vasorum of the bronchial circulation could be demonstrated.

Tubercle, London

34:179-204 (July) 1953. **Partial Index**

Tuberculosis Hostels—a Contribution to the Welfare of the Homeless Phthisic. W. Hartston and J. F. Macgregor.—p. 180.
Bronchiectasis in a Community. J. C. H. Mackenzie.—p. 184.
Protection Against Tuberculosis of Medical Personnel in the Army. L. R. S. Macfarlane and C. H. Jones.—p. 188.
Tuberculoma of Liver Successfully Treated with Streptomycin. J. R. Armstrong.—p. 191.
Internal Pneumolysis. R. D'Sa.—p. 193.

Ugeskrift for Laeger, Copenhagen

115:965-1002 (June 18) 1953. **Partial Index**

*Epilepsy and Its Medical Treatment. M. A. Lennox.—p. 965.
*Significance of Electroencephalography in Diagnosis of Epilepsy. F. Buchthal.—p. 972.
Review of Pathophysiology and Treatment of Myasthenia. L. Engbaek.—p. 984.
Antiepileptics. Brief Review. H. Simonsen.—p. 986.

Epilepsy and Its Medical Treatment.—Lennox considers the medical treatment of epilepsy a trial of patience. It takes time to establish the suitable medication for a patient, and one's inventiveness must never fail. Three simple rules if followed increase the therapeutic success. The first rule is to determine the type of attack and apply the corresponding medication. The special diagnostic difficulty here lies in differentiation between petit mal and psychomotor attacks of brief duration or focal attacks. The second rule is to give adequate doses, i. e., to increase the dose slowly until the attacks are under control or signs of toxic effects appear. The third rule is to change medication or to use a combination of different substances, if the attacks cannot be controlled by sufficient doses of one substance. This should always be done gradually. The most important agents available for treatment of grand mal are, in the order of their reliability and effectiveness, diphenylhydantoin (Difhydan), phenobarbital (Phenemal), and Mesantoin (3-methyl-5,5-phenylethyl hydantoin). The two main agents available for treatment of petit mal, akinetic, and myoclonic attacks are trimethadione (Tridione) and paramethadione (Paradione). Some patients become free from attacks with the one and not the other; paramethadione is less likely to aggravate a simultaneous grand mal. A combination of grand mal and petit mal in the same patient complicates the therapeutic problem; in such cases it is necessary to combine various substances. Expressed in figures, about half of all patients with epilepsy can be made free from attacks, and another 25% can be materially improved. The aim of treatment in epilepsy is control of the seizures together with assistance to the patient in his adjustment on social, economic, and educational levels.

Significance of Electroencephalography in Diagnosis of Epilepsy.—According to Buchthal electroencephalography makes it possible not only to analyze the mechanism of the epileptic attack and the place of origin but also to examine the condition in the free interval. The changed threshold in cortical and/or subcortical parts of the brain is as a rule manifest before and during the attack and will be seen electroencephalographically. With few exceptions attacks without electroencephalographic changes are functional. Many conditions formerly believed to be functional are masked epileptic disturbances, especially localized in the temporal region. A normal electroencephalogram during the free interval does not exclude epilepsy. In diagnosis and determination of treatment the case history and observation of an attack are most important. The electroencephalographic examination often decisively supplements the clinical examination. When the anamnestic information is vague and no attack has been observed, positive findings in the electroencephalogram often determine the diagnosis. Abnormal frequency in the electroencephalogram appears in the form, amplitude, and frequency of the waves. Registration during the attack will by and large reveal three patterns: an extreme acceleration in the frequency and amplitude of the deflections, extremely low frequency of large amplitude (the more uncharacteristic psychomotor or temporal attacks), and a regular alternation between potentials of short and long duration (petit mal).

Union Médicale du Canada, Montreal

82:719-842 (July) 1953. **Partial Index**

Tumors of the Mediastinum. J. Prévost and L. Décarie.—p. 725.
Considerations on Some Inoperable Cases of Cancer of the Esophagus Treated by Roentgenotherapy During the Years of 1951 to 1952. P. Brodeur and S. Lauzé.—p. 750.
*Bronchopulmonary Cancer: Statistical Analysis of 125 Cases. E. D. Gagnon.—p. 767.
Clinical Considerations on Asthma and Its Treatment. J. Léger.—p. 775.

Bronchopulmonary Cancer.—Since February, 1949, bronchopulmonary cancer was observed in 120 men and 5 women admitted to the thoracic clinic of the Notre-Dame Hospital in Montreal. Of the 125 patients, 97 were over 50 years; the oldest was 79 and the youngest 21. Fifty patients smoked more than 20 cigarettes daily, 38 patients smoked less than 20 cigarettes daily, and 10 did not smoke. The author is doubtful as to the significance of tobacco particularly in the form of cigarettes as an etiologic cause of bronchopulmonary cancer. Cough associated with asthenia, dyspnea, pain in the thorax, or loss of weight was the most frequent symptom. Most of the patients first seemed to have "grippe." One should strongly suspect bronchopulmonary cancer in a man over 40 who continues to cough after the other symptoms of the "grippe" have subsided. It is also important to remember that recurrent pneumonia due to pulmonary atelectasis in a man of this age may be indicative of bronchopulmonary cancer. Hemoptysis should be considered as a danger sign, which induces the patient to seek medical advice, rather than an initial symptom of bronchogenic cancer. All persistent respiratory changes that do not subside in a man past 40 after treatment for four weeks should raise suspicion of bronchopulmonary cancer. Of the diagnostic means, roentgenographic examination and bronchoscopy are the most important. Of the 82 patients in whom bronchoscopy was performed, 52 showed gross changes in the bronchial tree suggesting a neoplasm, and in 38 a biopsy established the diagnosis. Of 81 patients whose sputum was examined cytologically, the diagnosis of bronchopulmonary carcinoma was established in 10 (12.3%); results of the cytological examination were doubtful in 16 patients and negative in 55 patients. Exploratory thoracotomy established the diagnosis of bronchopulmonary carcinoma in 29 patients; but in only 19 of these could pneumonectomy be carried out. Exploratory thoracotomy is the last means of diagnosis in patients with clinical, roentgenologic, or bronchoscopic evidence of cancer of the lung. Routine roentgenography should be considered the vanguard in the detection of bronchopulmonary cancer. Of the 19 patients submitted to pneumonectomy, 3 died during the postoperative period. Of the remaining 16, 9 died within one year. Of the seven survivors 3 were followed up for two to four years and did not show any symptoms of recurrence or of metastasis. In the remaining four the follow-up was too short for drawing any conclusions. Early detection of the disease by routine roentgenography and thorough examination of men over 40 with respiratory changes may improve the statistics of survival.

BOOK REVIEWS

Nutrition and Diet in Health and Disease. By James S. McLester, M.D., and William J. Darby, M.D., Ph.D., Professor of Biochemistry and Director of Division of Nutrition, Vanderbilt University, Nashville. Sixth edition. Cloth. $10. Pp. 710, with 14 illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaftesbury Ave., London, W.C.2, 1952.

This has always been one of the standard reference books in this field, and, with William J. Darby as collaborating author for the first time, the present edition is no less complete and authoritative than previous editions. It has been brought up-to-date by the addition of new material that accumulates so rapidly that assimilation and selection become a bewildering task. The final 84 pages of this volume are devoted to an appendix containing valuable tables of food composition, arranged in a variety of ways to be of greatest value in the planning of diets. Part 1 of the text is concerned with physiological concepts and biochemical information underlying the science of nutrition, with separate chapters on proteins, minerals, vitamins, energy metabolism, infant feeding, and normal diets. This section constitutes a complete and concise review of these subjects that will be acceptable to special students of clinical and experimental nutrition and of enormous value to practicing physicians and to persons interested in collateral fields of biological and social science.

Brevity of treatment is obviously necessary in a text of this sort that does not pretend to be a complete encyclopedia of the science of nutrition. Supplementary reading is invited by a comprehensive bibliography at the end of each chapter. Part 2 consists of separate discussions of the nutritional problems involved in individual disease entities. There are sections on vitamin deficiency diseases, diabetes mellitus, gout, obesity and leanness, allergies, and renal, digestive, febrile, cardiovascular, hematological, endocrine, and dermatological diseases. Especially commendable is the sane and well-informed point of view expressed concerning numerous controversial subjects. Of these, two in particular may be cited. The importance of quantitative dietary purines in gout has recently been the subject of much study and disagreement. Despite convincing evidence that the purine nucleus can be synthesized from simpler compounds, there is still reason to believe that a low purine intake is beneficial in the treatment of gout. Similarly, the dispute relative to low cholesterol intake in prevention of atherosclerosis cannot be settled at this time. The text in this volume points out that animal experiments demonstrating the induction of this condition through feeding of high cholesterol diets establishes conditions that have no direct counterpart in man. Emphasis is correctly placed on the need for a conservative attitude toward these trends, with much greater importance attached to the control of obesity as the major preventive of degenerative vascular diseases.

One section, under the guest authorship of Dr. Charles Lund of Boston, is devoted to the difficult problems encountered in relation to both the preoperative and postoperative care of surgical patients. Inclusion of such a discussion is adequate testimony to the growing importance of nutrition in the total concept of surgical therapy. The last chapter provides an interesting discussion of nutrition in industry that is a pertinent and timely recognition of an often unappreciated social and medical problem.

The volume is clearly written, comprehensive in scope, and nicely balanced in treatment of subject matter. It is abundantly illustrated with charts, graphs, and tables but contains no photographs. It combines, in optimal proportion, the physiological and biochemical background for the science of nutrition with an abundance of practical information that greatly augments its utility over other volumes that are overbalanced in either one direction or the other. It should be in the library of every serious student of nutrition, particularly of those in the clinical fields.

Mention may be made of the omission of any unified consideration of nutrition in relation to dental health. The subject is mentioned only briefly in the discussion of the biological function of fluorine. A section dealing with this field would widen the scope of usefulness of the book and provide recognition of the growing conviction that nutrition and diet are of fundamental importance in the maintenance of dental health and the prevention of dental disease.

For Girls Only: The Doctor Discusses the Mysteries of Womanhood. By Frank Howard Richardson, M.D. Cloth. $2.50. Pp. 98. Tupper and Love, Inc., 1090 Capitol Ave., S.E., Atlanta 2, Georgia, 1953.

Sensible discussion characterizes this small volume, even though at times there is a tendency for the writing to become somewhat ponderous. In all but 2 of the 14 chapters, the scene is a girls' summer camp, an especially appropriate setting for the frank discussions that are presented. Most of the constructive suggestions are made by the camp directress, who speaks informally to the girls at special gatherings, but another character, in the person of a woman physician, handles the semitechnical aspects of body changes during adolescence, sexual maturation, and pregnancy. Especially well done are the chapters on petting, the difficulties girls have in understanding their mothers, and the problems mothers have in getting along with their adolescent daughters. All parents can probably benefit from this volume as much as can their daughters, and the reading of it might well be recommended as a cooperative family project.

Adventures in Artificial Respiration. By Peter V. Karpovich, M.D., Professor of Physiology, Springfield College, Springfield, Massachusetts Cloth. $7.50. Pp. 303, with 126 illustrations. Association Press, National Council of the Y. M. C. A., 291 Broadway, New York 7. 1953.

It seems incredible that 117 different methods of artificial respiration have been developed, but the author of this volume gives descriptions, facts, and dates for that many. The methods described are for infants, and for persons asphyxiated by drowning, stove gas, war gases, or electrical shock. Special emphasis is given to the Nielsen method of artificial respiration known in the United States as the back pressure-arm lift method. A chapter is devoted to the mechanics of respiration, including principles and common misconceptions. The volume is well documented, and there are many illustrations, pictures, and tables. Members of the medical profession will want the book for the historical development. Members of lifesaving crews and instructors of water safety should have the book as a ready reference.

The Suprarenal Cortex. Edited by J. M. Yoffey. Proceedings of fifth symposium of Colston Research Society held in University of Bristol, April 1st-4th, 1952. Colston papers vol. 5. Cloth. $6.80. Pp. 232, with illustrations. Academic Press Inc., 125 East 23rd St., New York 10; Butterworths Scientific Publications, 4-6 Bell Yard, Temple Bar, London, W.C.2, 1953.

In April, 1952, the Colston Research Society held a symposium at the University of Bristol on the suprarenal cortex. This volume of the proceedings consists of 20 lectures, by many leading research workers, which give an admirable survey of knowledge of the suprarenal at that time; this field is developing so rapidly, however, that some of the concepts presented are already antiquated. Discussions follow the lectures, elucidating many of the topics presented. The topics include the nature of pituitary adrenocorticotropin and its preparation, the microscopic anatomy of the adrenal cortex, the chemistry and physiology of the adrenal steroids, and some clinical applications. Outstanding are papers by C. H. Li on adrenocorticotropin, S. Zuckerman on the adrenogenital relationship, G. F. Morrison on urinary adrenocortical steroids, and D. J. Ingle on physiology of these compounds.

These book reviews have been prepared by competent authorities but do not represent the opinions of any official bodies unless specifically so stated.

American Academy of Orthopaedic Surgeons Instructional Course Lectures. Volume X. Editor: Charles N. Pease, M.D. Cloth. $12. Pp. 439, with illustrations. J. W. Edwards, 1745 S. State St., Ann Arbor, Mich., 1953.

As the instructional courses of the American Academy of Orthopaedic Surgeons have increased in their scope and the amount of time given to them, the volume containing these lectures has, of necessity, also increased. The editor should be highly commended on this book, particularly regarding the rapidity with which the volume has made its appearance since these courses were given at the academy meeting less than six months ago. The format of the book is similar to the previous volumes and the excellent size of type makes for easy reading. The many reproductions in the book are excellently done, and so, from a reader's viewpoint, the book is easily read. The present volume is divided into several chapters, which make a nice summary within each chapter. The chapter on braces is of particular interest inasmuch as there are relatively few places where one can learn about proper braces. The chapter on amputations and prostheses of the upper extremity is also rather new and makes extremely interesting reading. This is an excellent reference book and, along with the previous ones of this series, makes a valuable addition to the orthopedic surgeon's library.

Surgery of the Pancreas. By Richard B. Cattell, M.D., Surgeon, Lahey Clinic, New England Baptist Hospital, Boston, and Kenneth W. Warren, M.D., Surgeon, Lahey Clinic. Cloth. $10. Pp. 374, with 100 illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaftesbury Ave., London, W.C.2, 1953.

This volume, devoted to pancreatic surgery, is based on a large clinical experience and is therefore an authoritative contribution. The first chapter, devoted to anatomy and physiology, is justifiably concise because the subject is well known. The second chapter, on congenital malformations, is complete. The third chapter, on acute pancreatitis, stresses the modern viewpoint, emphasizing diagnosis and medical management; surgical intervention is considered only under special circumstances. The chapter on chronic relapsing pancreatitis is one of the best in the book and is an outstanding addition to the literature, although general agreement with all principles stated will probably not obtain, as, for example, the excision of the body of the pancreas is to be carried out only when the process is limited to this portion of the gland. The next chapter, dealing with pancreatic cysts, summarizes much of what is known on the subject, but there are certain minor omissions such as mere mention of dermoid cysts and no mention of echinococcus cysts. More consideration of cystadenomas might be expected in a treatise of this sort. The chapter on pancreatic injuries is most complete. The last three chapters are concerned with pancreatic tumors but scant attention is given to carcinoma of the body and tail of the pancreas as a clinicopathological entity. In regard to side-tracking operations for palliation, the authors stress the importance of bile-tract-jejunal anastomosis and, in addition, the anastomosis by T-tube of the obstructed duct of Wirsung to the jejunum. It would have been interesting to note what the authors could say in regard to the subsequent course of the 28 patients with pancreatic duct anastomosis in addition to bile tract enterostomy as compared with those patients who received only the latter procedure, but such a discussion is not given. In the description of pancreatoduodenectomy the writers describe their methods of reimplantation of the pancreatic stump into bowel and only mention briefly that this step is not universally agreed upon and that others often simply ligate the stump with permanent occlusion of external pancreatic secretion.

Among 102 pancreatoduodenectomies (including 2 total pancreatectomies) there were 13 postoperative deaths, i. e., 12.7%. Of 38 survivors from pancreatoduodenectomy for carcinoma of the head of the pancreas, 10 lived less than 7 months, 12 lived 6 months to 1 year, 8 survived 1 to 2 years; 2 lived to 2 to 3 years, 1 lived 5 years. Among the 5 patients still alive, 4 have been living less than 6 months, and one has been living 6 years. Among 28 survivors for carcinoma of the ampulla, 15 are still living, 3 of them for five or more years after operation. Among 5 survivors from carcinoma of the distal common duct, three died 3, 21, and 41 months after operation respectively and two are alive at 7 and 16 months after the operation. Among 5 survivors for carcinoma of the duodenum, four lived 8, 8, 13, and 24 months respectively, and one lived for 18 months after the operation.

The writers are to be congratulated on their use of the term pancreatoduodenectomy rather than pancreacticoduodenectomy. On the other hand, certain features long ago introduced into the literature, and quite probably incorrect, are again perpetuated; for example, in the chapter on total pancreatectomy the cases of Billroth (1884) and of Franke (1900) are again cited although mention is made, quite correctly, that survivals for the period alleged to have occurred could not be possible without insulin and thus a true total pancreatectomy was not performed. Furthermore, the oft-cited case of Rockey as a total pancreatectomy is repeated, when at the necropsy of this patient 1 cc. of pancreatic tissue was discovered. The latter finding is of importance in view of the experiments reported by Dragstedt and others that in dogs retention of a small fragment of pancreas necessitates a higher insulin requirement than when the pancreas is totally removed. Thus Rockey's case should no longer be referred to as a true total pancreatectomy.

The value of this book is greatly enhanced by the profusion of excellent diagrams of surgical procedures, and beautiful reproductions of roentgenograms well chosen to illustrate various facts. Another outstanding feature is the extensive bibliography at the end of each chapter. The print is large and easily read, and the paper and binding are of the highest quality. This contribution is certainly the most up-to-date work in this field at present, and for this reason is of great value to all those doing abdominal surgery.

The Gold-Headed Cane. [By William Macmichael, M.D., 1827.] With foreword by James J. Waring, M.D., and preface by William J. Kerr, M.D. Containing text and illustrations of fifth edition [1923], including introduction by George C. Peachey and his annotations. Seventh edition Cloth. $6.50. Pp. 186, with illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto, 2B, 1953.

For some years Dr. Kerr has been convinced of the need to arouse in medical students a greater interest in the welfare of patients. The "gold-headed cane" has provided him with an inspiring device "for bringing the Art of Medicine more forcibly to the attention of students, faculty and of all those concerned with the care of patients." This award is granted annually in a fitting ceremony at the University of California School of Medicine; the gold-headed cane serves to augment and embellish other rewards of recognition for scholarship by emphasizing the fact that its recipient possesses qualities inherent in the well-educated physician. The history of the gold-headed cane extends over a period of more than 130 years. The fashionable doctor of the 18th century was somewhat of a dandy, with velvet or satin coat, a wig and three-cornered hat, buckskin breeches, top boots or stockings, buckled shoes, gloves, and even a muff. An essential part of the physician's equipment at the time was a cane, with a gold or silver top, made perforated and hollow so that it could contain an aromatic compound believed capable of preventing infection.

This book deals with the earliest traditions of the gold-headed cane. In its pages will be met John Radcliffe (1650-1729), who was physician to King William and Queen Mary of England and who first made the remark, since attributed to others, that "as a young practitioner he possessed twenty remedies for every disease, and at the close of his career he found twenty diseases for which he had not one remedy." Radcliffe carried a gold-headed cane and passed it on to his successor in medical practice, Richard Mean. In turn the cane was passed along to various successive physicians who carried it to meetings of the medically learned; early in the 19th century it was deposited in the Royal College of Physicians, where it remains to this day. An account of some of the physicians who carried the cane was first published in 1827 by William Macmichael, a second edition appearing in 1828, and a third in 1884. The reissue (1923) by George Peachey was chosen for the present seventh edition.

Man's Foods: Nutrition and Environments in Food Gathering Times and Food Producing Times. By Lloyd B. Jensen, Ph.D. Cloth. $4.50. Pp. 278. Garrard Press, 119-123 W. Park Ave., Champaign, Ill., 1953.

This book deals with a survey of man's food from paleolithic epochs to the close of classical times, and includes a discussion of the nutritional influences of various foods on man's development. The author, whose professional fields are microbiology and food technology, has been interested in ethnic history and prehistoric culture since his youth. Even with this backgound, preparation of this volume must have been a formidable task. The book contains a wealth of interesting material from many heterogenous fields, but, unfortunately, the facts and theories presented are not well organized into a smooth, sequential whole. The reader is disconcerted by being transported back and forth between prehistoric and modern times on innumerable occasions. The style of writing does not permit easy reading. Less detailed documentation and more generalization would have added to the appeal of this book for both laymen and professional persons. The first two sections of the book, which deal with food gathering times and food producing times, provide many valuable references and interesting conjectures. The third section, entitled "Foods, Environment, and Man's Nutrition," includes miscellaneous notes on relationships of nutrition to climatic stress, bodily changes and man's welfare, the social aspects of nutrition, and early preparation of food. This book should be of greater interest to the anthropologist, sociologist, and historian than to the biochemist or physician.

A Translation of Luigi Galvani's De viribus electricitatis in motu musculari commentarius. Commentary on the Effect of Electricity on Muscular Motion. By Robert Montraville Green, M.D. Cloth. $4. Pp. 97, with 4 illustrations. Elizabeth Licht, Publisher, 30 Hillside Ave., Cambridge 40, Mass., 1953.

Galvani's account of his pioneer experiments in electrophysiology was published in Latin in 1791 and subsequently translated into Italian, German, and French. According to the preface, however, this is the first appearance of the work in English. It is desirable that Galvani's own account be made more widely available to students in this way, for the modest and straightforward manner in which he set forth these epoch-making facts makes one deplore the pressures that necessitate the publicity-conscious maneuvering with which scientific discoveries, real and fancied, are announced today. Another timely feature of the book is Pupilli's biographical introduction, for it records Galvani's conflict with the politicians of the Cisalpine Republic that had been created by Napoleon and the consequent poverty of the last days of Galvani's life.

The difficulties of rendering the complex sentences of the original Latin into readable English have been met expertly by the translator; the supplementary material has been well chosen; there are some interesting illustrations; and the publisher has contributed an attractive format. This book is recommended to students of physiology and medical history.

The Neurophysiological Basis of Mind: The Principles of Neurophysiology. By John Carew Eccles, Professor of Physiology, Australian National University, Canberra. Waynflete lectures delivered in College of St. Mary Magdalen, Oxford, in Hilary Term, 1952. Cloth. Pp. 314, with 89 illustrations. Oxford University Press, 114 Fifth Ave., New York 11; Amen House, Warwick Sq., London, E.C.4, 1953.

This monograph on neurophysiology is built on a series of lectures delivered at Oxford in 1952. The subject of synaptic transmission is the main theme of the lectures, and, as the author states, the contributions of his own laboratory have been given disproportionate emphasis. The first two chapters are concerned with the theories regarding the transmission of the impulse along the course of the nerve. The ionic hypothesis of the resting and active membrane is discussed in detail. The author invokes the hypothesis of a "sodium pump" to explain the interchange of ions across the membrane and does not consider the possibility that acetylcholine may play some role in the diffusion of the ions by altering the permeability of the membrane. The third and fourth chapters deal with the transmission of the impulse at the peripheral junction and in the central nervous system. In these chapters the conclusions are in agreement with the generally accepted viewpoint. The last four chapters deal with central inhibition, prolonged functional changes (plasticity) in the nervous system, transmission within the cerebral cortex, and the mind-brain problem. The statements in these chapters are conjectural and highly speculative, without basis of sound experimental evidence.

The book is well printed and illustrated by a large number of diagrams and models to clarify the text. The subject matter is highly technical, and the book will be of interest only to physiologists, particularly those who have a special knowledge of electrophysiology. It might be added that the title of the book is misleading in that the subject matter is primarily the transmission of impulses. The author has failed to elucidate the neurophysiological basis of mind.

Sehnenverletzungen und Sehnen-Muskeltransplantationen. Von A. N. Witt, Privatdozent Oberarzt des Versorgungskrankenhauses Bad Tölz. Cloth. 32.80 marks. Pp. 164, with 122 illustrations. J. F. Bergmann, Trogerstrasse 56, München 27, 1953.

This book affords a ready source of reliable information on tendon injuries and transplantations. The literature on this subject that has accumulated in the past 15 years is voluminous. The author has covered this material well, particularly that originating in America, Italy, England, France, and Germany. The subject matter is directed to both the specialist and the general surgeon. The stress placed on the physiopathology of tendon mechanisms is especially commendable. Substitution procedures are admirably presented. This monograph is not solely theoretical but represents the author's personal experience gained while doing work at the State Hospital (Staatl Versorgungskrankenhaus), Bad Tölz. The simple pen-and-ink sketches and the many fine photographs demonstrate pathology and procedures adequately. An extensive bibliography is appended at the end of the text. This book is recommended to anyone who is interested in this subject and who has a comprehensive reading knowledge of German.

The Metabolism of the Tubercle Bacillus. By William F. Drea, D.M.D., Associate Laboratory Director, Colorado Foundation for Research in Tuberculosis, Colorado College, Colorado Springs, and Anatole Andrejew, I.C., Research Staff, National Center for Scientific Research in France, Pasteur Institute, Paris. With foreword by Esmond R. Long, M.D., Ph.D., Sc.D., Director of Pathology, University of Pennsylvania, Philadelphia. Cloth. $12.50. Pp. 448, with 24 illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto, 2B, 1953.

This is a timely compilation of the literature and the authors' experiences that adds a needed reference volume to those of Calmette and Wells. Long, in the foreword, notes that a great deal of information accumulated in the last 30 years is coordinated here. Both authors are pioneers in the study of important phases of the problem under consideration, and their personal investigations led to the preparation of this monograph. Drea is a student of subsurface growth and Andrejew, of the mechanisms involved in respiration of the bacillus. The chapters on nutrition and respiration cover the fundamental physiology of tubercle bacilli, with a comprehensive review of the older literature. The chapter on depth growth is the most important in the monograph. It is based on the work of Drea and Boissevain, 10 years ago, that resulted in striking rapidity of growth from minute inoculums in simple mediums. Andrejew, through special skills, elucidates the problems of oxygen utilization in subsurface growth. The fourth chapter, on enzyme systems, furnishes information of specific as well as general interest on enzyme systems and indicates the paucity of applicable information with regard to the tubercle bacillus. The closing chapter contains a detailed review of chemical studies of the bacillus and its products. When possible or desirable, comparison with other acid-fast or nonacid-fast micro-organisms is made. The monograph is unique and will not be duplicated until new data on the tubercle bacillus, its metabolism, and its virulence appear. This, however, requires long painstaking study because of the slow growth, persistence and natural biological possibilities of the micro-organism.

QUERIES AND MINOR NOTES

EIGHTH NERVE DAMAGE FROM STREPTOMYCIN

To the Editor:—*What therapy is indicated for involvement of the eighth cranial nerve in prolonged streptomycin therapy?* M.D., *Pennsylvania.*

Answer.—There is no specific antidote for damage to the eighth nerve from streptomycin. There is usually some spontaneous recovery of function in the first six months after therapy with the drug has been stopped. Adequate doses of complete B complex vitamins are theoretically beneficial to the injured nerve, but there has been no proof of their effectiveness. When the damage is confined to the vestibular nerve, adequate compensation is established by the body in the course of a year or two in younger persons; in older persons compensation occurs more slowly and is not so complete. Head and bending exercises, as described by Cawthorne, are helpful in hastening this adaptation of the organism to the loss of the vestibular nerves. When the acoustic division of the eighth nerve has been effected, there is no specific therapy. The best treatment of streptomycin damage to the eighth nerve is prevention, that is, the avoidance of dihydrostreptomycin, which is particularly toxic to the acoustic division, and the limitation of streptomycin to a dose of 1 gm. daily, with prompt withdrawal of the drug at the first evidence of loss of vestibular response.

METASTATIC NEUROBLASTOMA

To the Editor:—*I would appreciate information on treatment for an 11-year-old girl with metastatic neuroblastoma of the lungs and pelvis. The original tumor was removed from the right kidney area, and the patient has had several courses of x-ray therapy, which has partially controlled the growth of the lesions. Her parents are aware of the ultimate prognosis but are constantly plagued by persons who suggest various "cures." Is there anything that may be of benefit?* M.D., *Wisconsin.*

Answer.—Certain patients with neuroblastoma widely metastatic have shown transient incomplete regression of the lesions when treated with compounds having activity as folic acid antagonists. Amethopterin and 4-aminopteroylglutamic acid (Aminopterin) are the compounds usually employed. Radiation therapy has long had a role in temporary control of these lesions. Rare instances of spontaneous improvement have been encountered. No form of dietary therapy has been shown to have salutary effects, nor has the use of any radioactive isotope.

HEARING OF THE PULSE IN THE EAR

To the Editor:—*What is the cause of and treatment for hearing of the pulse in the right ear? There is no pain and no deafness. The pulse is distinctly heard when the patient is in any position but particularly when he becomes quiet or is lying down. There is no continuous murmur. This condition has been gradually developing for months.*

C. F. Upchurch, M.D., Oceana, W. Va.

This inquiry was referred to two consultants, whose respective replies follow.—Ed.

Answer.—The hearing of a murmur in the ears is fairly common. A single rush of blood may be heard with each cardiac cycle, or the sound may be split. These sounds are usually heard when the patient is recumbent and when all other noises are absent. At this time, the hearing apparatus becomes exquisitely sensitive to these bruits, which otherwise are lost in the general noise level. The bruits are particularly noticeable when air absorbed in the middle ear is not replaced. They may be amplified by closing of the external auditory canal by, for example, a pillow. Sometimes the sound can be eliminated by swallowing or by blowing air into the eustachian tube. The internal carotid artery passes close by the internal ear, and its vibration may be transmitted to the cochlea. Hypersensitive persons may focus special attention on these noises. In these, reassurance is usually sufficient to eliminate the special attention given to the noises. These bruits become commoner in and after middle age. The presence of a unilateral progressive bruit calls for special investigation. Occasionally, it may indicate the presence of an intracranial arteriovenous aneurysm. Such bruits may be sufficiently loud to be heard by direct auscultation. Arteriovenous aneurysms with unilateral bruit may develop after severe skull injury. Neurological examination may establish the site of the lesion. X-ray investigation may rarely show such aneurysms.

Answer.—The internal carotid artery in its canal through the petrous bone passes close by the inner ear. A patient may occasionally hear his pulse under physiological conditions, such as tight closing of the external canal by impacted cerumen or by resting of the head on and occluding of the ear by an arm or a pillow, in absolute quiet; the artificially increased bone conduction makes possible the perception of the sound of the pulsation. The pulse may be heard also during increased activity of the heart (as the result of physical exercise or emotional excitement). Some clinicians contend that all of these conditions act directly or indirectly on the blood supply to the auditory neural elements or their supporting tissues. Aneurysm of the internal carotid artery and other cardiovascular disorders may cause excessive sound, which could be transmitted to the inner ear. Similarly, angiogenetic neoplasms in the vicinity of the petrous bone could cause such a symptom. In some instances this type of pulsation may even be heard directly or through an otoscopic diagnostic tube by the examiner (objective tinnitus). Hypertensive states may also play a role. A pulsating sound or subjective ear noise may be present as a psychosomatic manifestation. The normal sound of circulation, which is below the threshold of perception, may become noticeable. Proper treatment may be determined only by extensive clinical study to find the cause of the symptom. Apart from a comprehensive investigation of the auditory mechanism, all constitutional influences must be duly considered. It should be borne in mind that pulsating tinnitus may occur independently of ear disease or it may be aggravated by some underlying general condition.

PENILE INDURATION

To the Editor:—*A married clergyman, aged 50, who has three children, for three months has complained that during intercourse his penis angulates at about a 45 to 60 degree angle to the right. There is no pain. He has never had any other genitourinary disorder, and physical examination reveals no abnormality. The prostate and scrotal contents appear normal. What is the cause and the treatment?* M.D., *New York.*

Answer.—From the data offered in this case, it would seem that the clergyman's symptoms are caused by Peyronie's disease. This condition, also called fibrous cavernitis or penile induration, results from induration of the corpora cavernosa in the penis. In most cases, the lesion is self-limiting and the symptoms become ameliorated in the course of time. Good results have been reported recently in treating this condition with cortisone. Radium packs have been used with good results in a small percentage of these cases. Surgical treatment has also been tried in some cases, but as a rule the results have not been satisfactory.

The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically so stated in the reply. Anonymous communications and queries on postal cards cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.

LOUD FETAL HEART MURMUR

To the Editor:—*An obstetric patient had no complications, but about one month prior to term I heard a loud, blowing, systolic fetal heart murmur, which persisted at every examination. I have never heard such a sound before. It was not a uterine souffle or any other sound of pregnancy. It definitely was synchronous with the fetal heart beat. Am I right in assuming that it was due to patent ductus arteriosis?* *William B. Gerlach, M.D., Harlowton, Mont.*

This inquiry was referred to two consultants, whose respective replies follow.—Ed.

Answer.—It is not likely that the murmur was due to patent ductus arteriosis. It was probably a fumic or umbilical souffle, which is characterized by a sharp whistling sound, synchronous with the fetal pulse. It can be heard in about 15% of patients and is due to a rush of blood through the umbilical arteries when they are subjected to pressure by torsion, twisting, or tension of the umbilical cord.

Answer.—It is questionable that the systolic murmur heard was due to patent ductus arteriosus. Every newborn child normally has patent ductus arteriosus, which closes shortly after birth. It is extremely difficult to diagnose murmurs in infants during the first six months of life. It is doubly hard to diagnose a murmur in the fetal heart. About all that can be done is to note, from the standpoint of academic interest, that the fetus has a systolic murmur. If the murmur persists after birth, the child will require constant observation before the cause of the murmur can be determined.

CHARCOT'S JOINTS

To the Editor:—*A man, aged 40, has had a Charcot's right knee (neurogenic arthropathy) and a Charcot's left ankle, on a tabetic basis, for 10 years. The joints are badly disintegrated, but, with the support of braces, the patient has been able to pursue his occupation, the operation of heavy equipment. He has had several courses of penicillin therapy and, except for the joint disease, has had no signs of tabes for a long time. He insists on being given yearly courses of 6 million units of penicillin. Recently, the ankle underwent further disintegration, but this seemed to stop during a course of penicillin therapy. I am told that penicillin does not alter the course in Charcot's joint. 1. What are the chances that arthrodesis would be successful? 2. Will a Charcot's joint in which the disease apparently has been arrested for years disintegrate further? 3. Would you advise yearly or half-yearly administration of penicillin to avoid further disintegration of the involved joints?* *M.D., Pennsylvania.*

This inquiry was referred to two consultants, whose respective replies follow.—Ed.

Answer.—1. Whether arthrodesis of the knee and ankle would be successful can be determined only by an orthopedist on the basis of a personal examination of the patient and roentgenograms. 2. A Charcot's joint can disintegrate further long after the disintegration process seems to have stopped. 3. The apparent effect of penicillin on the ankle disease is the result of chance. No form of antisyphilitic treatment has a beneficial effect on Charcot's arthropathy, the management of which, at least in the knee and ankle, is purely an orthopedic problem. Further antisyphilitic treatment, whether with penicillin or by any other means, is not worth while prophylactically to avoid further destruction of the involved joints or involvement of other joints. The Charcot change is unpredictable, may occur at any time in a patient with long-standing, apparently arrested tabes dorsalis, and is neither preventable nor curable.

Answer.—1. The chances of obtaining a successful arthrodesis of both the knee and ankle on the affected side in patients with neurogenic arthropathy are almost nil. The chances of one of these joints being fused is somewhat better and would be worth a trial; however, adequate braces would probably be just as effective. 2. Charcot's joints in which the disease process appears to have been arrested for several years may disintegrate further and often do. There is never any spontaneous improvement from a roentgenologic or functional standpoint. 3. If the tabetic process is arrested, as determined by serologic tests, repeated administration of penicillin will have no objective effect on the arthropathy. It is probable that any effect seen is coincidental or psychic. Furthermore, it will not prevent the development of neurotrophic changes in other joints that are not affected at this time.

DACRYOCYSTITIS

To the Editor:—*What is the most effective treatment for resistant, purulent dacryocystitis?* *W. O. Bailey, M.D., Leesburg, Va.*

Answer.—Dacryocystitis ordinarily is due to an occlusion of the distal end of the lacrimal sac within the nose. The treatment consists essentially of the establishing of a connection between the sac and the nose. This may be done by probing, which usually is not very successful. Recently, a procedure in which a small plastic tube is threaded through the lacrimal punctum into the nose has given satisfactory results. In the event that this proves unsuccessful, the procedure of choice is dacryocystorhinostomy, in which the medial wall of the lacrimal sac is sutured to the nasal mucosa through an opening in the bony wall of the nose. All patients with dacryocystitis should be examined by a rhinologist to exclude the presence of nasal conditions causing obstruction of the nasal lacrimal ostium.

TIRED AND NERVOUS PATIENTS

To the Editor:—*Many patients, especially women, are nervous and tired, have cold intolerance, dry skin and hair, and borderline-low or low basal metabolic rates and borderline-high serum cholesterol. They feel much better while taking from 0.5 to 3 grains (0.03 to 0.3 gm.) of desiccated thyroid; yet, they are said to react normally to radioactive iodine and protein-bound iodine tests. Are these patients at all hypothyroid? If not, does it harm them to take thyroid extract over a long period of time?* *G. V. Lemmon Jr., M.D., Springfield, Mo.*

Answer.—Many patients have basal metabolic rates considerably lower than the average normal level without clinical evidence of thyroid disease and with evidence of normal thyroid function as determined by radioiodine collection by the thyroid gland and by protein-bound iodine of the blood. In many instances this condition has been determined to be a constitutional characteristic. It is frequently accompanied by symptoms of a chronic fatigue state. Some, but by no means all, of these patients may feel better and have less fatigue if they are given a dose of desiccated thyroid that will maintain the basal metabolic rate at or near the average normal level. Occasional clinical observation should be made to be sure that symptoms or signs of hyperthyroidism do not supervene. No demonstrable harm has been reported to result from administration of desiccated thyroid providing the basal metabolic rate has not been raised above normal levels; however, the advantages of this procedure are questionable in most instances. If the basal metabolic rate is elevated by desiccated thyroid over a considerable period of time, cessation of medication may, as Farquharson has pointed out, be followed by a temporary period of hypothyroidism until the thyroid gland has recovered its normal function.

ALOPECIA AREATA

To the Editor:—*What local skin lesion would cause loss of hair on the lateral side of the chin, leaving residual, smooth, baby-like skin the size of a dollar, with no symptoms resembling alopecia areata?* *M.D., New York.*

Answer.—Alopecia areata may occur on areas other than the scalp. The eyebrows and beard area are often affected. In the case described, the presence of a sharply defined patch of smooth skin, devoid of hairs and without signs of inflammation or scars, suggests alopecia areata.

VECTORCARDIOGRAPHY

To the Editor:—*Please send me information on vectorcardiography. What is the principle involved, and what are the practical applications?*

A. R. Powell, M.D., Elkader, Iowa.

Answer.—During the complex spread of the cardiac impulse through the myocardium, areas are created that have been reached by the wave of activation while other, progressively smaller, areas remain to be activated. Similarly a reversal of events takes place during recovery from activation. The net effect of either process results in differences of electric potential in a large number of areas. Those activated can be said to represent the negative pole or source of an electric battery, and those still to be activated, or already deactivated, its positive pole or sink. The electromotive force thus created at any instant of depolarization and repolarization of the heart can be diagrammatically represented by an arrow having a certain direction, a certain length (magnitude of the electromotive force), and a certain orientation (sense) with respect to its positive and negative ends. Such a geometric representation of a force in space is called a vector.

In the heart, the vector is assumed to originate in a central point. It changes its length and direction from moment to moment during ventricular activation and deactivation (and also during that of the auricles), depending on the relative amount of activated and resting cardiac tissue. By connecting the tips of all momentary vectors, two loop-like figures or "vector loops" are obtained, depicting, respectively, the course of activation and deactivation of the ventricular myocardium. Since these vector loops have a certain spatial orientation, their contour will be different if viewed in different planes of the body.

The conventional electrocardiogram is considered to represent the projection of the vector loop on the frontal and transverse plane of the body. Thus, the frontal vector loop can be constructed from leads obtained in this plane (leads 1, 2, 3 and the aV limb leads) by plotting on a coordinate system the size of a deflection, at consecutive time intervals, as measured in two of these leads; and vice versa the contour of the electrocardiogram can be determined by construction, if the contour, direction, and magnitude of the vector loop is known. Methods have been developed for direct recording of vector loops in the different planes, as well as for quick approximate determination of the vectorcardiogram from the conventional electrocardiogram. At present, however, the former method of direct vectorcardiography is too complex, time-consuming, and expensive and the latter method is not accurate enough to replace routine electrocardiography in practice.

CRAMPS ASSOCIATED WITH PREGNANCY

To the Editor:—*I read that 5 grains (0.3 gm.) of quinine gave complete relief of cramps that are associated with pregnancy and that occur at night. I have used this in several cases and have had good results. However, I wonder whether there could be any deleterious effect to the eighth nerve of the fetus or the mother. Kindly give an opinion about the use of quinine for this condition.*

R. J. Stein, M.D., Pierz, Minn.

Answer.—Since there is some danger in the use of quinine during pregnancy, it would seem that a simpler way to relieve the cramps would be the use of 30 drops of concentrated percomorph liver oil daily. Relief is obtained in one to three days, and the dose can be raised or lowered or discontinued, depending on the relief of symptom. Many things will relieve these cramps, including quinine, cod liver oil, calcium, parathyroid, and activity. They are theoretically caused by local stagnation of blood in the muscle tissue due to low blood pressure and slow pulse rate that is often present and normal during pregnancy. According to this theory, lactic acid accumulates and causes the cramps because of its toxicity. The leg cramps are also present in many nonpregnant women as well as men and often are relieved by the same treatment.

POLYCYSTIC RENAL DISEASE

To the Editor:—*A young woman in good health has given birth to two full-term babies. Both pregnancies and deliveries were uneventful, but neither baby lived more than a few hours. In each instance the cause of death, as determined by autopsy, was found to be polycystic kidney disease. Both the wife and husband have been studied by excretory urography, and there is no evidence of renal anomaly. There is also no family history of kidney disease. This couple wants to know what the probability is that a third child may have polycystic kidney disease.*

M.D., Washington, D. C.

Answer.—The influence of heredity in the incidence of polycystic renal disease is of major importance. The mere fact that a denial of renal disease is made by the parents of polycystic babies is insufficient. A meticulous study for evidence of renal disease in all members of both families should be made in parents and grandparents, uncles and aunts, and brothers and sisters. It is well known that such inheritance may skip a generation and may be present in only one or two of several children. The clinical evidence of polycystic kidney in adults may be obscure. In some cases the presence of hypertension alone will be the clue. The diagnosis of polycystic kidney cannot be excluded by excretory urography alone. In the early decades the deformity may be limited. Furthermore, excretory urography frequently may not visualize minor deformity, and clear retrograde pyelograms should be made in order to do so. Since the disease may not occur in all children of families, there is a possibility that a third child may be born without this lesion. On the other hand, since both infants had evidence of polycystic disease, it is doubtful whether the couple should be encouraged to have more children.

INSECTICIDE TOXICITY

To the Editor:—*What are the health hazards from using a heavy fog of gamma benzene hexachloride in a fogging machine? Are mosquitoes more easily killed by it than flies? Are there not better and less dangerous ways of getting rid of mosquitoes than by fogging?*

M.D., Pennsylvania.

Answer.—The use of a heavy fog of gamma benzene hexachloride in a fogging machine outdoors has not been found to result in injury to health even though this operation has been conducted extensively over many areas of the country during the last few years. The person who would be most likely to receive excessive exposure would be the operator of the fogging machine. Benzene hexachloride will hold mosquito larvae in check with appreciably lower concentrations than are necessary to prevent the emergence of house-fly larvae. The benzene hexachloride was found to be the most effective of a group of 33 insecticides in killing mosquitoes. The predominating factor in the toxicology of gamma benzene hexachloride is stimulation of the central nervous system resulting in hyperirritability and lack of muscular coordination. Excessive exposure may cause death. Absorption can take place through the gastrointestinal tract, the respiratory tract, and the skin. Storage is greatest in the fatty tissues, but significant amounts are deposited in the liver and kidneys. Absorption through the gastrointestinal tract is of relatively low order, but the customary precautions against prolonged and extensive inhalation should be observed.

COUNTING OF CHROMOSOMES

To the Editor:—*By the use of electron microscopy, has any investigator been able to count the chromosomes in the cells of human tissue?*

Luther M. Strayer Jr., M.D., Bridgeport, Conn.

Answer.—It is not necessary to use the electron microscope to count human chromosomes, because they are large enough to be seen and counted by an ordinary microscope. In fact, to use an electron microscope for this purpose introduces many difficulties.

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VAGOTOMY AS A PROPHYLACTIC AND CURATIVE PROCEDURE IN PEPTIC ULCER

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and
Donald P. Chance, M.D., Rochester, Minn.

As long as the cause of peptic ulceration remains unknown, which unfortunately will probably be a long time, the methods used for its correction will vary and so will the results. This variation will depend on the knowledge and experience of the internist and the surgeon, and on the response of the patient to the method used to reduce gastrospasm by decreasing the quantity and concentration of hydrochloric acid secreted by the stomach. Variation also depends on the ability to develop the patient's insight and knowledge of the association of peptic ulcer with nervous and emotional disturbances. Of even greater importance is the response of the individual patient's gastrointestinal mucosa to the digestive action of gastric secretion.

Only about 13% of the patients suffering from duodenal ulcer who have come to the Mayo Clinic in recent years have required surgical treatment. These patients had complications with which we are all familiar. In these cases the internists and surgeons advised operations since medical management was no longer feasible and was likely to be followed by untoward results. The other 87% of patients with duodenal ulcer have been provided with a medical regimen because of a short history of ulcer or no previous trial of good medical treatment and because no complications were present.

The patient with gastric ulcer needs a different program of treatment, for gastric ulceration differs in many ways from duodenal ulceration. When operation is necessary for gastric ulcer and the ulcerating lesion is removed by partial gastrectomy, the results are excellent in practically every case, recurrent ulceration never occurs, and the operative risk is less than 2%. Obviously there is no place for vagotomy alone in the treatment of such lesions, for it leaves behind an ulcerating lesion that has a 20% chance of becoming malignant. When vagotomy has been used, it has been followed by a high recurrence rate for benign gastric ulceration and a high incidence of troublesome digestive symptoms due to the atonic stomach, which does not empty satisfactorily. Happily, few surgeons continue to use vagotomy in the treatment of gastric ulcer.

We will confine our remarks for the most part, therefore, to the use of vagotomy in the treatment of duodenal ulcer and to ulcer recurring after either gastric resection or a gastroenterostomy. We will try to answer the following questions and a few others that will be suggested by the discussion. 1. Will vagotomy alone cause healing of duodenal and gastric ulcers? 2. Will vagotomy added to gastroenterostomy improve the results of gastroenterostomy alone for duodenal ulcer? How do these results compare with those of gastric resection with and without vagotomy? 3. Will vagotomy alone cause healing of gastrojejunal ulcers which may follow (*a*) gastroenterostomy or (*b*) gastric resection, and in what comparative proportions? 4. Which type of treatment, vagotomy, gastric resection, or reresection, yields better functional results and lower recurrence rates in cases of gastrojejunal ulcer after gastroenterostomy or gastric resection?

SURGICAL TREATMENT OF DUODENAL ULCER EXCLUSIVE OF VAGOTOMY

Before the results of vagotomy in the prevention and treatment of peptic ulceration are discussed, it is first necessary to describe the results of treatment of duodenal ulcer by pyloroplasty, gastroenterostomy, and gastric resection without vagotomy. Each of these procedures will cause the ulcer to heal and in most cases will prevent recurrence. This is especially true of properly performed gastric resection.

From the surgical standpoint, operations for chronic duodenal ulcer are directed toward relieving pyloric or duodenal obstruction due to pylorospasm associated with a small ulcer or to an obstructing ulcer. The aim is to reduce gastric acidity preferably to a relative achlorhydria, and, when possible, with pyloroplasty and gastric resection to remove the duodenal ulcer.

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From the Division of Surgery, Mayo Clinic.

Read before the Section on Gastroenterology and Proctology at the 102nd Annual Meeting of the American Medical Association, New York, June 2, 1953.

In the early twenties, when 50% of patients with duodenal ulcer who came to the Mayo Clinic were operated on, many with small nonobstructing ulcers, pyloroplasty or gastroduodenostomy with removal of the ulcer frequently gave surprisingly good results with regard to relief of symptoms of ulcer. The operative risk was low, being about 1% or less. Unfortunately, since gastric acidity was not lowered, for the gastric antrum remained, and because some gastric stasis occurred, the ulcers recurred in a high percentage of cases and these operations were abandoned. In recent years, equally good results have been obtained in cases of ulcer of similar type by nonsurgical methods directed to the relief of pylorospasm and reduction of gastric acidity.

Gastroenterostomy has been used extensively and with splendid results in the treatment of chronic duodenal ulcer that caused varying degrees of pyloric obstruction; however, ulceration sometimes recurred. It recurred in from 4 to 6% of the clinic's cases[1] and in 10% of the cases reported by Lorenz.[2] These patients were operated on, for the most part, during and after World War I when the German and Austrian people had been subjected to the strains of a terrible war during which time, and for years afterward, they had received inadequate food, especially proteins, fats, and vitamins, for the maintenance of a normal nutritional state. Recurrent ulceration was proved in 18% of the cases and suspected in another 16% of the cases reported by Berg and Lewishon.[3] Although mention is not made of the nationality of the patients in the reports from Mount Sinai Hospital, it may be assumed that the majority were Jews, among whom recurrent ulceration is greatly increased.

When ulceration did not recur, the patient obtained complete relief of symptoms of ulcer, had few evidences of gastrointestinal dysfunction, and the duodenal ulcer always healed unless obstruction occurred at the gastrojejunal stoma. Then and only then might reactivation of the duodenal ulcer occur. There must be thousands of patients who have undergone gastroenterostomy and who are living normal lives today, and this operation continues to be used at the clinic in selected cases. It is now employed by us in about 10% of cases of duodenal ulcer treated surgically whereas gastric resection is used in about 80%.

Gastric resection took the place of gastroenterostomy in treatment of chronic duodenal ulcer at the clinic because the rate of recurrence was only about 2% after this operation. Furthermore, after operation the patient could eat and drink what he liked, within reason, and the results were, for the most part, excellent. Some untoward symptoms of minor character, however, sometimes occur. These, for example, are loss of, or inability to gain, weight, or symptoms related to rapid emptying of the stomach with distention of the intestine, either the jejunum or duodenum, to which it was anastomosed. This disturbance was called the "dumping syndrome." At first the risk of gastric resection for duodenal ulcer varied from 3.5 to 10%, but, as surgeons became more familiar with the indications for removing the duodenal ulcer, or leaving it, and for closing the duodenal stump so that leakage would not occur, the operative risk in properly selected cases and for properly executed operations dropped to approximately 1.5%.[4] As examples of this, we would like to quote from several recent reports.

In the series of McDonald, Gillespie, and LaBree[5] from the Duluth Clinic, presented at the last meeting of the Central Surgical Association, the mortality rate from gastric resection decreased from 6.3% of 93 patients operated on five to nine years ago to zero for the last 141 consecutive resections performed in the years 1948 through 1952. Follow-up studies in 68 patients five to nine years after operation showed that 94% were able to resume preoperative duties and that in the 1948-1952 series 92% of their patients had excellent results, with loss of weight occurring in 12% and 20% of their two series respectively.

Kline,[6] speaking at the meeting of the Southern Medical Association, Nov. 5 to 8, 1951, reported on 357 resections for benign lesions of the stomach and duodenum with a mortality rate of 0.3%. Kline had performed the operations in 250 cases, and the other operations were done under his direct supervision.

The experience at the Mayo Clinic is similar. Approximately 90% of our patients have excellent results, about 10% have mild digestive symptoms, not of the type caused by ulcer. The hospital mortality rate was 1.5% for the 409 gastric resections for duodenal ulcer performed in 1952. We have averaged about a 2% ulcer recurrence rate.

VAGOTOMY

The truest and best test of what vagotomy will accomplish in the way of healing of a peptic ulcer is to note its effect on duodenal and gastric ulcers in which no other operation is performed, for whatever reason, especially when the associated operations that have been used to prevent gastric stasis of themselves will cause such ulcers to heal. In our experience vagotomy alone in the treatment of duodenal ulcer has given excellent results in only 64% of cases, with evidence of failure to heal, or recurrence, in 16%.

Dragstedt and Woodward[7] reported on 234 patients with duodenal ulcers treated by vagotomy alone. Of these, 76% secured a good result, 9% a fair result, and 15% a poor result. These data were part of a statistical study of 509 patients who had undergone vagotomy and were followed one to seven years.

One of us (W. W.) used the operation in seven cases of gastric ulcer: In one the ulcer failed to heal, and in another it seemed to heal but recurred a year or so later. Gastric resection with removal of the ulcer was followed by an excellent result in both these cases. One patient with a high gastric ulcer and associated gastritis who has been followed for seven years has had an excellent result from vagotomy. Roentgenograms of the stomach have failed to show any evidence of recurring ulcer, although dilatation of his stomach had continued and so had the gastritis to the last gastroscopic examination four years ago. This was three years after the vagotomy. This patient was last examined at the clinic on May 13, 1953. Dragstedt and Woodward [7] reported results of 26 vagotomy operations on patients with gastric ulcers. Sixty-two per cent secured a good result, 15% a fair result, and 23% a poor result.

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[1] Gray, H. K., and Williams, R. R., Jr.: Results of Classic Operations for Duodenal Ulcer: 5 to 10 Year Follow-Up in 532 Cases, J. A. M. A. **141**: 509-513 (Oct. 22) 1949.

[2] Lorenz, H., and Schur, H.: Unsere Erfahrungen über den Wert der Antrumresektion bei der Behandlung des Ulces pepticum, Arch. f. klin. Chir. **119**: 239-276, 1922.

[3] Lewishon, R., quoted by Berg, A. A.: Mortality and Late Results of Subtotal Gastrectomy for Radical Cure of Gastric and Duodenal Ulcer, Ann. Surg. **92**: 340-359 (Sept.) 1930.

[4] Gray, H. K.; Walters, W.; Priestley, J. T., and Waugh, J. M.: Report on Surgery of Stomach and Duodenum for 1951, Proc. Staff Meet., Mayo Clin. **27**: 585-592 (Dec. 31) 1952.

[5] McDonald, O. G.; Gillespie, M. G., and LaBree, R. N.: Treatment of Duodenal Ulcer by Subtotal Gastric Resection: Ten Year Study, A. M. A. Arch. Surg. **67**: 444-450 (Sept.) 1953.

[6] Kline, P. S.: The Complicated Peptic Ulcer, South. M. J. **45**: 713-716 (Aug.) 1952.

[7] Dragstedt, L. R., and Woodward, E. R.: Appraisal of Vagotomy for Peptic Ulcer After Seven Years, J. A. M. A. **145**: 795-802 (March 17) 1951.

Whether healing of a gastric or a duodenal ulcer occurs after vagotomy alone is overshadowed by the fact that vagotomy has been combined with gastric resection and gastroenteric anastomosis routinely in recent years for gastric and duodenal ulcer by even the staunchest advocates of vagotomy.

In other words then, vagotomy alone will temporarily heal many duodenal and some gastric ulcers. Perhaps it would heal more if one could be sure that all the vagi were identified and cut, and if there was a more accurate test of the completeness of the vagotomy than we have in the insulin test. Portions of the nerves should be excised for microscopic examination. This has been done routinely on our service. In the cases in which one of us (W. W.) has operated personally, insulin tests have been done 10 to 14 days after operation and were repeated whenever the patient returned. Correlation is good in about 80% of the cases between the result of the test and the clinical results in general, but correlation is poor when recurring ulceration is present. By this we mean that many patients with recurrent ulcers had normal results in insulin tests.* Postoperative insulin tests have given normal results in 74.1% of our patients in which vagotomy with, and without, other gastric operations was performed.

Vagotomy with Gastroenterostomy Compared with Gastric Resection.—In our experience the incidence of recurrence after gastroenterostomy has been 5 to 6%,[1] compared with about 1.1 to 2% after gastric resection. It was our hope that vagotomy when combined with gastroenterostomy would reduce recurrence of ulcer, but unfortunately it has not in our experience. Hoerr,[8] of the Cleveland Clinic, recently reported 147 cases in which gastroenterostomy and vagotomy were performed for duodenal ulcer. Twelve per cent of the operations were considered failures because of persisting or recurring ulcer or symptoms of this. In 1952, one year before, this group reported only 7% failures in their cases. In 15% of the cases diarrhea occurred. Hoerr reported an excellent result (no ulcer pain, no dietary restrictions) in 68% of cases, and good results (no ulcer pain but bloating and vague abdominal distress) in an additional 17%. These latter patients were satisfied with their operation, he said. In 1951, Dragstedt and Woodward [7] reported on 219 patients with duodenal ulcers who were treated by vagotomy plus gastroenterostomy. Eighty-one per cent secured a good result, 10% a fair result, and 9% a poor result.

Adding vagotomy to gastroenterostomy not only has failed to reduce the incidence of recurring ulceration in our experience but has produced troublesome disturbances of motility, such as nausea, fulness, and diarrhea, in 10 to 17% of cases. In some cases another operation, gastric resection, has been required and in others diarrhea has persisted. These results do not compare favorably with those of gastric resection properly performed in properly chosen cases of chronic duodenal ulcer.

The risk of gastroenterostomy with vagotomy and the risk of gastric resection for duodenal ulcer are about similar in our experience. Recently we studied the reports of two series of cases from another institution in which the authors compared results of gastroenterostomy with vagotomy in 175 cases [9] of duodenal ulcer performed at a risk of less than 1% with those of gastric resection in 132 cases, 81 of which were cases of duodenal ulcer. The risk of gastric resection was 3.9%. In the latter group, two of the five deaths following the operation were due to cardiovascular accidents, the remaining were complications that probably would not have occurred had an attempt not been made to remove the ulcer. The "probable or possible" recurrence rate of 5.3% in the second group and the suspected recurrence rate of 9.2% could be attributed to the fact that the pylorus had not been removed but had been excluded in 28 of the 81 cases in which gastric resection was performed for duodenal ulcer. The delayed postoperative complications, and there were many, were due, we believe, to an unwise selection of cases and difficulties with the operation.

Vagotomy with Pyloroplasty.—Vagotomy plus pyloroplasty has largely been abandoned in favor of gastroenterostomy and vagotomy. Crile was an early advocate of pyloroplasty and vagotomy but changed to gastroenterostomy and vagotomy largely, we think, because gastric stasis was greater after pyloroplasty than when gastroenterostomy was performed in its stead. At the beginning of our studies on vagotomy we performed pyloroplasty with vagotomy a few times, but we too abandoned the operation for the reasons mentioned.

Vagotomy, Gastric Resection, and Re-resection in Cases of Gastrojejunal Ulcers Following Gastroenterostomy or Gastric Resection.—In 1947, one of us (W. W.),[10] with associates, after studying and reporting the results of vagotomy with and without associated gastric operations in 66 cases stated that vagotomy is a great contribution to the treatment of recurring ulcer, especially after gastric resection. This statement, which has been reiterated with the passage of years [11] and an increase of the number of cases, continues to be true and we hope will be for many years to come. In a recent follow-up study of patients treated for gastrojejunal ulcer by vagotomy alone at the Mayo Clinic in 1945 through 1952, we found that healing of the ulcer had occurred in 70.5% of 78 traced cases of gastrojejunal ulcer after gastric resection and in 77.8% of 27 traced cases in which the ulcer followed gastroenterostomy (see table).

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* Abnormal results of insulin tests, as used in this paper, indicate an increase in the quantity of free gastric acidity at the time of greatest hypoglycemia and may be interpreted as evidence of incomplete vagotomy. Normal results of insulin tests as used herein indicate that no increase in the gastric acidity occurred at the time of greatest hypoglycemia and may be interpreted as evidence of complete vagotomy.

8. Hoerr, S. O.: Duodenal Ulcer Treated by Subdiaphragmatic Vagus Resection and Posterior Gastroenterostomy: Interim Report, A. M. A. Arch. Surg. **67**: 436-443 (Sept.) 1953.

9. Lyons, C. K., and Grimson, K. S.: Complications Following Subtotal Gastric Resections Performed Since June, 1944, for Peptic Ulcer in 132 Patients, Surgery **28**: 350-367 (Aug.) 1950. Grimson, K. S.; Rowe, C. R., Jr., and Taylor, H. M.: Results of Vagotomy During Seven Years: Clinical Observations and Tests of Gastric Secretions, Ann. Surg. **135**: 621-636 (May) 1952.

10. Walters, W., and others: Anatomic Distribution of Vagus Nerves at Lower End of Esophagus: Relation to Gastric Neurectomy for Ulcer, Arch. Surg. **55**: 400-422 (Oct.) 1947.

11. Walters, W.; Belding, H. H., III, and Smith, M. K.: Comparison of Results in Personally Studied Cases in Which Gastric Vagotomy Was Performed with Those Reported to American Gastroenterological Association, Gastroenterology **19**: 623-638 (Dec.) 1951.

Dragstedt and Woodward[7] reported 30 vagotomies performed for gastrojejunal ulcers. Sixteen of these were for gastrojejunal ulcers following partial gastric resection. Eighty-one per cent of the 16 patients secured a good result, 6% a fair result, and 13% a poor result from the procedure. Vagotomy was performed on 14 patients for the treatment of gastrojejunal ulcer following gastroenterostomy. Sixty-five per cent of these patients secured a good result, 14% a fair result, and 21% a poor result. However, gastric resection alone, at the Mayo Clinic, in 1945 through 1952, gave excellent results in 86.5% of 111 traced cases in which gastrojejunal ulcer developed after gastroenterostomy. Results were poor in 9.0% of our traced cases in which gastric resection was employed for gastrojejunal ulcer following gastroenterostomy and in 11.1% of such cases in which treatment consisted of vagotomy alone.

Results of Gastric Resection and Vagotomy for Gastrojejunal Ulcer, 1945-1952

		Mortality		Traced Cases, No.
	No.	No.	%	
Vagotomy	143	3	2.1	125
Gastric resection	158	4	2.5	118

	Traced Cases, No.	Results, %		
		Excellent	Unsatisfactory	Poor
Vagotomy alone				
After previous gastric resection	78	70.5	11.5	18.0
After previous gastroenterostomy	27	77.8	11.1	11.1
Total	105	72.4	11.4	16.2
Vagotomy and gastric resection	11	90.9	9.1	....
Vagotomy and other operations	9	44.5	22.2	33.3
Total for all types of vagotomy	125	72.0	12.0	16.0
Gastric resection				
After previous gastric resection	7	57.1	14.3	28.6
After previous gastroenterostomy	111	86.5	4.5	9.0
Total	118	84.7	5.1	10.2

We have seen extremely large gastrojejunal ulcers develop after adequate gastric resections and heal after vagotomy; the operative risk is approximately 1%. This result is far better and the operative risk is much lower than that of another gastric resection. But vagotomy does not cure all such gastrojejunal ulcers, for in some cases removal of most of the stomach and a second excision of segments of vagus nerves have been required to prevent recurrence of ulcer. In one of the two brief case reports that follow, the vagus nerves had been cut transthoracically and in the other they were reported to have been cut transabdominally at the time of the first gastric resection. The first case illustrates repeated gastric resection and second vagotomy for recurring gastrojejunocolic fistulas.

REPORT OF CASES

Case 1.—The patient was a man 50 years old when he first came to the clinic in 1949. In 1927, symptoms of ulcer had first appeared. In 1934, a perforated duodenal ulcer was closed elsewhere, and in 1935 another perforation made necessary another closure. In May, 1947, gastric resection was performed because of hemorrhage and pain, and in March, 1948, another gastric resection and transabdominal vagotomy were performed for gastrojejunal ulcer.

In January and February, 1949, multiple gastrojejunocolic fistulas and multiple gastrojejunal ulcers developed and the patient consulted the clinic. Results of insulin tests were abnormal. A third resection of the stomach was performed with closure of the colonic fistulas and cautery puncture of the colon. One month later the colonic stoma was closed.

In May, 1949, pain recurred and roentgen therapy to the stomach was without benefit. In August, because of pain and a gastrojejunocolic fistula, all but a small portion of the fundus of the stomach was removed, the colonic fistula was closed, and transabdominal vagotomy was carried out. The patient would not allow postoperative intubation of his stomach, so no gastric acidity studies could be made.

On Feb. 17, 1951, the patient was found to have pulmonary tuberculosis and was admitted to a sanatorium. On March 3, his wife wrote that his stomach condition was good, and on Dec. 10, 1951, a letter reported that he was dismissed from the sanatorium in June and was doing well. The patient returned to the clinic on Dec. 31, 1952, remaining until May 19, 1953, for treatment of pulmonary tuberculosis. He had no indigestion and the gastrointestinal tract was functioning well. When last seen on May 19, 1953, he had no gastrointestinal disturbances.

The second case illustrates jejunal ulcer following gastroenterostomy, gastrojejunal ulcer following gastric resection, and jejunal ulcer following vagotomy.

Case 2.—The patient, a man aged 60, came to the clinic on May 19, 1936. At that visit, posterior gastroenterostomy was performed for perforated duodenal ulcer with hemorrhage. The patient was free of symptoms until November, 1941, when pain and hemorrhage recurred. These symptoms were persistent and continued. On Jan. 17, 1944, the gastroenteric anastomosis was disconnected, gastric resection with posterior Polya-type anastomosis was performed, and jejunojejunostomy was carried out for acute jejunal ulcer.

Periodic attacks of pain with tarry stools began late in 1945, and in October, 1946, the patient had hematemesis, tarry stools, and epigastric pain. On Nov. 21, 1946, transthoracic vagotomy was performed for jejunal ulcer. Pain was relieved, but massive hemorrhages occurred in May, July, and August, 1948. Roentgenograms made on Aug. 13, 1948, revealed evidence of a jejunal ulcer, but roentgenograms made on Aug. 30 and Sept. 3 did not show it. Results of insulin tests were abnormal on Aug. 17, 1948, normal on Aug. 26, and abnormal on Sept. 3.

The patient returned May 5, 1950, because of melena and hematemesis. He had had no ulcer pain. An insulin test on May 26 gave an abnormal result, and the concentration of free hydrochloric acid varied from 12 to 80 (Töpfer's method) during the insulin test. On June 2, 1950, the gastrojejunal anastomosis was disconnected, a portion of the jejunum containing the ulcers was resected, and end-to-end jejunojejunostomy was performed. Further resection of the stomach, with an anterior Balfour-Polya type of anastomosis and bilateral transabdominal vagotomy, was performed. The insulin test on June 2 gave a normal result and the concentration of free hydrochloric acid in the gastric contents varied from 0 to 8 during the test.

After this operation the patient had no more gastrointestinal disturbance or gastrointestinal bleeding, but he died Dec. 18, 1950, from cerebral hemorrhage.

Since vagotomy is so effective in the treatment of recurring ulceration after gastric resection, the question is frequently asked: "Why is not vagotomy added to gastric resection to prevent recurring ulceration?" Druckerman, Weinstein, Klingenstein, and Colp[12] have recently reported 385 consecutive cases of duodenal ulcer, in 220 of which only gastric resection was performed and in 165 gastric resection with vagotomy. Whereas a recurrence rate in the former group was 4.5%, with an additional 1% of cases in which recurrence was suspected, no recurrences had developed to date in the group in which vagotomy was performed with gastric resection. It must not be forgotten, however, that in the experience at the Mayo Clinic the average interval between gastric resection and the development of gastrojejunal ulcer has been approximately three and a half years. Druckerman and co-workers [12] have not stated the nationality or race of their patients, that is, whether most of them were Jews. They reported that postoperative morbidity and complications were about two and one-half times greater in the group subjected to vagotomy. This was due to an increase in postoperative pulmonary complications, diarrhea, and vomiting. Of their 218 traced patients who had undergone resections, 195 were well and 8 improved (93%), while of the 161 traced patients who had undergone resection and vagotomy 156 were well and 2 were improved (98%). Prolonged moderate diarrhea occurred in 7% of the cases of the latter group after the combined operation.

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[12] Druckerman, L. J.; Weinstein, V. A.; Klingenstein, P., and Colp, R.: Duodenal Ulcer Treated by Subtotal Gastrectomy With and Without Vagotomy, J. A. M. A. 151: 1266-1269 (April 11) 1953.

Because of the persistent troublesome disturbances in motility and the lower recurrence rate of 2% after gastric resection alone for duodenal ulcer at the Mayo Clinic, we do not perform simultaneous vagotomy and gastric resection except in selected cases. The patients selected for this procedure, as recommended by Johnson and Orr,[13] have unusually high concentrations of gastric acids or hereditary racial characteristics that indicate that they might be candidates for recurring ulceration.

Since vagotomy is effective in preventing recurrences of ulcer after resection, the question that immediately follows is: "Why isn't vagotomy effective in preventing recurrences after gastroenterostomy?" Unhappily in our experience, and in that of some others, vagotomy has not prevented recurrences in some cases; for example, Crile reported recurrence in 6% of 400 cases, Pollock [14] in 8% of 462 collected cases, and Hoerr [8] in 12% of 146 cases from the Cleveland Clinic in 1953. Probably the reasons for this are that the hormonal influence of the pylorus remains, the stomach retains food longer, and a greater quantity of acid is secreted and retained within the stomach. Evidence of this is the higher incidence of relative achlorhydria in the resected stomachs (72%) as compared to 34 to 36% of the patients who had gastroenterostomy and vagotomy. It seems logical, therefore, to assume that the rate of recurrence of ulcer would be lower after resection.

COMMENT

We would not close this discussion without emphasizing that in the treatment of gastrojejunal ulcer, especially after gastric resection, vagotomy is an operation that produces amazingly fine results in about 70% of cases at the extremely low operative risk of about 1% and that these results are far superior to those of reresection. In a few cases it has been necessary to combine further resection to almost total gastrectomy with vagotomy to prevent recurrence of ulcers.

One of us (W. W.) has used vagotomy combined with gastroenterostomy for middle-aged men who had high concentration of acids and large duodenal ulcers when the risk of removal or allowing them to remain as a part of a gastric resection was high. Under these circumstances the results from both our standpoint and the patient's have been satisfactory. In similar cases gastroenterostomy without vagotomy has been oftenest employed relatively satisfactorily. In neither case, however, have the results from all standpoints been equal to those of the average of other patients on whom gastric resections were performed by the various surgeons operating on patients with peptic ulcer at the Mayo Clinic. For this reason we and our colleagues at the Mayo Clinic have favored gastric resection in the treatment of chronic duodenal ulcer when operation was indicated and when resection could be done safely. We have continued to use gastroenterostomy and gastroenterostomy with vagotomy in cases in which gastric resections seemed to carry an unreasonable risk when compared to that of gastroenterostomy. The so-called exclusion operation, in which the pylorus is allowed to remain even though the mucous membrane is removed in the course of gastric resection, is practically never used at the clinic for large duodenal ulcers because of the high incidence of gastrojejunal ulcers reported by others when the pylorus is left.

Excellent summaries of large series of cases of peptic ulcers have appeared in 1952 in the *Lancet* by Pulvertaft,[15] Johnson and Orr,[13] and Pollock,[14] and in the *British Medical Journal* by Ogilvie. These bear out our conclusions and are recommended as very interesting reading.

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13. Johnson, H. D., and Orr, I. M.: Surgical Policy for Peptic Ulcer, Lancet 1: 253-257 (Feb. 7) 1953.

14. Pollock, A. V.: Vagotomy in Treatment of Peptic Ulceration: Review of 1,524 Cases, Lancet 2: 795-800 (Oct. 25) 1952.

15. Pulvertaft, C. N., quoted by Ogilvie, H.: Problem of Peptic Ulceration, Lancet 1: 555-560 (March 21) 1953.

Laboratory Tests vs. Stethoscopes.—You might find it strange that I, as a pathologist, should be asking for a reduction in the number of laboratory tests. I believe that in the cases of difficult and unusual problems any amount of laboratory work is justified, but unimportant testing in the general run of cases is a waste of the laboratory worker's life, and the time spent performing this almost useless work might better be devoted to the serious diagnostic problems. I feel strongly that the routine ordering of tests should be abolished. . . . The modern laboratory aids encourage careless bedside study. I find physicians who shout for icterus index reports, yet have never lifted the eyelids of the patients; who speak glibly of hemorrhage from the stomach and bowel, but who have never looked at the stool or gastric vomitus. It is quite common for these very dark items to be mistaken for blood by nurses who chart them as hemorrhage. I find the practitioner timid about suggesting Addison's disease in the presence of weakness, anemia, emaciation, skin bronzing and very low blood pressure until he knows the sodium and potassium values or the output of 17-ketosteroids. Did Addison have such a test? Did Graves have basal metabolism reports? While the B. M. R. is interesting, it is border-line in many non-toxic thyroid cases and scarcely more informative than checking the pulse rate.—E. Kellert, M.D., Laboratory Tests vs. Stethoscopes, *American Practitioner and Digest of Treatment*, July, 1953.

MANAGEMENT OF THE PREGNANT DIABETIC

Edward Tolstoi, M.D., William P. Given, M.D.
and
R. Gordon Douglas, M.D., New York

In 1950 we published the results of 131 pregnancies in 106 diabetic women. These were obtained from the hospital records and represented the work of various members of the staff.[1] The data revealed that toxemia was present in 48% and ketosis in 16.8% and that over 50% of the babies were over size as judged by the average clinic weight of 3,450 gm. Our total fetal loss was 30%. This included 10 spontaneous and 4 therapeutic abortions, 4 immature infant deaths, and 1 ectopic pregnancy. Our fetal mortality was 24.8% consisting of 6 premature and 22 mature infants. It was our conclusion that the toxemia, ketosis, and excessively large fragile infant were the principal causes for our fetal loss, and no doubt our lack of knowledge concerning other intangibles was a contributing factor. Since the pregnant diabetic presents a number of problems, we reasoned that the management of these patients by a group—each member devoted to his field—might be more effective and productive of better results. We were influenced in this respect by Priscilla White whose clinic is so organized. Consequently, such a group was established, and space was provided in the Women's Clinic of the New York Hospital, where all of us could work together at the same hours and be available for the discussion of any problems that arose. This paper reports our procedure and the results with 72 cases treated during the past three years.

ANTEPARTUM CARE

Most diabetic women before assuming the responsibilities of motherhood want to know *(a)* whether pregnancy is safe for them, *(b)* what the chances are for a living baby, and *(c)* whether the child will have diabetes. On the basis of our experience, we tell the patient that the healthy diabetic runs no greater risk to herself as far as her life is concerned than the nondiabetic and that she has an 80% chance of having a living baby. As to the possibilities of diabetes developing in the child, we can only quote the work of others that the inheritance of diabetes follows the Mendelian laws.

After the initial examination and as soon as possible after conception, the internist and the obstetrician jointly examine the patient every week. At each visit the patient is weighed, and the abdomen is palpated to determine the size, presentation, and position of the fetus. The height of the uterus is noted. The fetal heart sounds are sought, and their character is recorded. The blood pressure is taken, the eyegrounds are studied, and the extremities, as well as the abdominal wall, are examined for edema. The urine is examined weekly for albumin, acetone, and sugar. We have drawn blood weekly for various investigations. No hormones were used. Because of the tendency of the pregnant diabetic toward fluid retention and clinical edema, patients were given 6 to 8 gm. of ammonium chloride daily for four days of each week. In addition, we restricted the salt intake by asking the patient not to use salt in her cooking or at the table. The latter procedures were recommended at the 16th week.

The diabetes was treated by the clinical method. The patient is permitted a self-selected, unweighed, and unmeasured diet to suit her taste and appetite. Dietary restriction was urged in the overweight or when there was rapid gain in weight. Optimal weight gain should be the same as for the nondiabetic patient. With this liberal diet we usually prescribe one daily dose of isophane (NPH) insulin or occasionally a mixture of regular and protamine zinc insulin in quantity sufficient to: *(a)* maintain the patient free from the symptoms of diabetes (thirst, frequency, nocturia, and polyuria), *(b)* maintain or induce the gain of small amount of weight, and *(c)* keep the urine acetone-free.

In order to determine the optimum insulin dosage, we question the patient as to the presence of symptoms of diabetes or those of hypoglycemia, and, if the former are present, we increase the dosage by 5 units until the symptoms disappear. On the other hand, if hypoglycemic symptoms are present, the insulin is lowered by 5 units until they clear. The insulin requirements are different for each patient, and it has been our experience that, as a general rule, they increase with the progression of the pregnancy. Our studies have shown that the absence of the symptoms of diabetes is a dependable criterion, per se, of control. Since we obtained blood at weekly intervals for certain investigations, we determined the fasting blood sugars also, and it is of interest to note how closely they approached normal values when the clinical criteria for control were achieved.

Provided no complications develop the patient is followed in this manner until about the 35th week of her pregnancy, and then she is admitted for the evaluation of the type and time of delivery. Roentgenograms of the patient's abdomen and pelvis are made. Also, an attempt is made to estimate the size of the infant. This has proved difficult at times because of the edema of the abdominal wall or the presence of a large amount of amniotic fluid. (It may be generalized that about 50 to 60% of the patients will be delivered prematurely by cesarean section, as this appears the most practical method of delivery.) Spontaneous labor and vaginal delivery in the healthy diabetic are permitted when *(a)* there is no cephalopelvic disproportion, *(b)* a short labor is anticipated, *(c)* obstetric conditions indicate the patient is ready for labor, and *(d)* diabetes is of short duration.

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Read before the Section on Obstetrics and Gynecology at the 102nd Annual Meeting of the American Medical Association, New York, June 4, 1953.

[1] Given, W. P.; Douglas, R. G., and Tolstoi, E.: Pregnancy and Diabetes, Am. J. Obst. & Gynec. 59: 729, 1950.

LABOR

During labor the patient is given 5% dextrose in water intravenously at the rate of 2,000 cc. every 12 hours and 1 unit of regular insulin for every 2 gm. of sugar in the infusion. The urine is examined at hourly intervals for acetone and sugar. If only acetone is present more dextrose is given. If both sugar and acetone are present, more insulin is given depending on the qualitative reaction for dextrose, usually 25 units for a 4 plus and 15 units for a 2 to 3 plus. Glycosuria alone is not treated. Analgesic agents are used sparingly, as the infant of a diabetic mother is often immature despite its size and tolerates respiratory depressants poorly. General anesthesia has been avoided. Low spinal and pudendal block are preferable. Wide episiotomy and low forceps are recommended.

COMPLICATIONS

There are four complications to which the pregnant diabetic is specifically exposed. These are preeclampsia, progression of hypertension with the development of albuminuria and retinopathy, hydramnios and edema without hypertension, and ketosis with or without acidosis. Death of the infant in utero may occur with any of these complications, and, though they may occur at any time in the pregnancy, they are most frequent after the 30th week. We have been impressed by the sudden need for more and more insulin to keep the patient ketone-free. Whereas a certain dosage sufficed prior to the 30th week, it was definitely inadequate after, and the insulin dosage had to be increased at times to twice the amount to obtain an acetone-free urine. Whenever any one of these serious situations appears, the patient must be hospitalized. The ketosis, although we regard it as a real emergency, offers no problem. A precipitating cause is sought. If it is due to an infection, appropriate antimicrobial therapy is instituted and the ketosis itself is treated as follows: 1. The urine is examined every half hour for sugar and acetone. If necessary, a catheter is inserted into the bladder, thus facilitating the collection of urine. 2. Twenty-five units of regular insulin are given every half hour as long as acetone continues to appear. The administration of insulin is continued until three consecutive acetone-free urines are obtained. 3. Fluids, such as fruit juices, water, milk, and broth, are given by mouth as tolerated whenever practical. 4. If the patient cannot retain or take fluids, an infusion of 5% dextrose in water is given at the rate of 2,000 to 3,000 cc. every 24 hours.

Usually with this technique of combined therapy both the infection and ketosis respond and the patient may resume her usual diabetic regimen. Unfortunately, we have no specific therapy for preeclampsia, hypertension, and hydramnios. Consequently, our treatment is empirical; it includes bed rest, sedation, and salt and fluid restriction. We follow the height of the fundus, estimate the tenseness of the abdomen, and measure the abdominal circumference to determine increases in amniotic fluid. For such increases we have given meralluride (Mercuhydrin), and, though in an occasional case the result was quite dramatic, it was by no means consistent. Recently, Nelson, Gillespie, and White[2] have suggested withdrawing some of the amniotic fluid. It seems that nothing can be predicted from all this empiric and unsatisfactory therapy, and one can do no more than hope that the infant will not die in utero until delivery can be accomplished. The only real cure as far as we are aware is the termination of the pregnancy.

If any of these complications occurs between the 30th and 32nd week of pregnancy, one is confronted with a most difficult decision. In considering delivery, one must weigh the dangers of prematurity against those of intrauterine death. We have been unable to set a definite time for delivery; each patient must be evaluated individually. During this most critical period, the patient with complications is observed very carefully and frequently. Ambulatory care is unsatisfactory. The fetal heart sounds are listened for, and the patient is questioned as to the degree of motility of the infant. As long as these are present delivery is postponed in the hope that each additional day or week will provide a more mature infant. However, when there is appearance or increase of retinal hemorrhages, progression of the toxemia, and/or an increase in the amniotic fluid, the patient is delivered promptly, usually by cesarean section.

The problem of management is most difficult between the 32nd and 34th week. Prior to the 32nd week, the infant is often not viable; consequently not much is to be done. After the 34th week, the problem of when to deliver is not as difficult when toxemia, hydramnios, or hypertension with progressive vascular changes are found. The patient is delivered without any delay, usually by cesarean section. While this offers the best chance for a viable infant, it is by no means a guarantee; thus, de-

TABLE 1.—*Weekly Fasting Blood Sugar Levels of Pregnant Diabetic Women Whose Insulin Dosage Was Regulated Only by Symptoms*

Patient	Duration of Diabetes, Yr.	Type of Insulin, Units	Weekly Fasting Blood Sugar Levels, Mg./100 Cc.																
1	3	NPH, 30	108	204	177	137	135	186	243	196	184	208	177	202	144	135	191	...	...
2	16	NPH, 95	91	99	43	60	80	115	82	72	120	107	207	156	141	100	145	225	210
3	15	NPH, 34	104	90	108	158	169	114	140	171	132	108	137	...	...	...	...	...	...
4	20	R, 54	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		P, 27	225	59	229	66	59	115	121	144	147	204	181	88	...	...	...	...	...
5	16	R, 30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		P, 15	154	156	68	85	76	144	97	...	...	...	...	...	...	...	...	...	...
6	10	P, 60	93	74	94	100	116	69	92	72	141	179	117	134	66	154	112	123	...

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[2] Nelson, H. B.; Gillespie, L., and White, P.: Obst. & Gynec. 1:219, 1953.

livery should be achieved in the diabetic whose pregnancy is complicated by toxemia, hydramnios with edema, and hypertension and progressive retinal changes. After the 34th week there is little gained in waiting, and a chance for a viable infant may be lost by delay. It may be stated that cesarean section is the method of choice in delivering an excessively large infant or a breech regardless of any complications.

CESAREAN SECTION

Cesarean section is done with the patient under local anesthesia. During the operation, the patient is given 1,000 cc. 5% dextrose in water intravenously, and after about 250 cc. have been given 25 units of regular or crystalline insulin are given hypodermically. If desired, the insulin may be given in the infusion. When the operation is over, a retention catheter is placed in the bladder and the diabetes is treated on the basis of the results of the urine examinations for sugar and acetone done at two hour intervals. If both sugar and acetone are present, regular insulin is given in doses determined by the glycosuria. A 4 plus specimen calls for 25 units and a 2 to 3 plus for 15 units; a negative sugar specimen must be covered with 200 cc. of orange juice. If the patient cannot take fluids by mouth, a 5% dextrose infusion of 1,000 cc. should be given. Usually, if both sugar and acetone are present postoperatively, the latter clears after two or three doses of regular insulin, and, if there is no thirst, the glycosuria is not of any concern. The catheter is removed 24 hours postoperatively, and the patient is offered food to suit her desire. The predelivery type of insulin dosage is reduced by 25 to 50%, and the optimum amount is then determined by the patient's symptoms. If she has symptoms of diabetes, the insulin is increased by 5 units every three days until the symptoms disappear. If, however, the patient has insulin reactions, the dosage is reduced by 5 units the next day, and this reduction continues as long as reactions occur. An asymptomatic glycosuria is disregarded, and we wish to emphasize that, in spite of a continuous glycosuria postoperatively, the wound healing was no different from that of a nondiabetic patient. We have had no infected wounds.

Table 2.—*Total and Neonatal Fetal Loss in Seventy-Two Diabetic Patients*

	Number	%
Abortions, under 500 gm.	7	9.7
Immature, 500-1,500 gm.	8	4.2
Premature, 1,500-2,500 gm.	2	2.7
Mature, over 2,500 gm.	11	16.2
Total	23	31.8
Deaths of viable fetuses		
In utero, 4 In nursery, 12	16	22.1

THE NEWBORN

Infants born to diabetic mothers are frequently of excessive size; their activity is poor; their cry is weak; and their respirations are at times established with difficulty. The babies may reveal a brawny generalized edema, cyanosis, icterus, and dyspnea. A roentgenogram often shows cardiac enlargement, and, though the blood cell count is normal, nucleated red blood cells may be found. Among these infants there is a high incidence of atelectasis and pneumonia. Intracranial hemorrhage is common. The livers are apt to be enlarged. The blood sugar values may have a wide range but are not different from the values of infants born to nondiabetic mothers. Because these infants are so fragile, they are treated as premature infants regardless of their size.

When delivery is planned a pediatrician is in attendance, and he assumes complete charge as soon as the child is delivered. Our procedure for the care of these infants includes several important aspects. 1. The airway is cleared. Repeated suction at definite intervals is used to clear the air passages of mucus and amniotic fluid. 2. After the passages have been cleared, oxygen is given and the child placed in an incubator with an oxygen inflow. 3. The child is examined and fluoroscopy is done. If the heart is enlarged or the liver is felt a distance below the costal arch, 0.035 to 0.04 mg. per kilogram of body weight of digitoxin is given as a digitalizing dose and 0.0035 mg. per kilogram daily as a maintenance dose. 4. The stomach is aspirated every 3 hours. It is best to keep the stomach as empty as possible so that the child will not regurgitate fluid and aspirate it subsequently. 5. The infant is also given 100,000 units of penicillin and 40 mg. of dihydrostreptomycin per kilogram of body weight every 24 hours. The antibiotics are administered for a week or 10 days. If the child is markedly edematous, fluids are withheld for 24 to 48 hours. And, during this period, there is often a weight loss of 350 to 500 gm. The child is disturbed as little as possible but is examined in the incubator for the character of the heart sounds and liver size. After food is withheld for the first 48 hours, 15 cc. of 5% glucose is given by nipple if the baby will take it, otherwise by stomach tube. Often the latter method is used as these babies eat poorly. They also tend to be inactive. About one or two days of feeding with glucose, depending on how active the child is, is followed by one-half skimmed or skimmed milk formula in 10 cc. quantities every 3 hours. The skimmed milk feedings are continued for two or three days, and then an evaporated milk formula is prescribed. This is made up of two parts of water and one part of evaporated milk and 5% Dextri-Maltose no. 2 (salt-free) containing about 70 calories per 100 cc. The fluid replacement is the same as for a normal infant, that is, 100 cc. per kilogram of body weight by the third day and 150 cc. per kilogram by the seventh day.

The child is observed frequently. If it is active and eats well, it may be removed from the incubator for a short period. If its color, activity, and respirations remain good, the periods out of the incubator may be increased until the infant can be removed from it entirely. The duration of incubation varies with each baby and depends chiefly on its reactions outside of the incubator. Usually, the active babies who eat adequately do not need long care in the incubator. It must be appreciated that this plan is subject to modification, because of ever-changing conditions. If one has guidance to some definite procedures, however, he can follow them until his own experiences and judgment dictate otherwise.

RESULTS

At the time this report was prepared, 72 patients had been treated. All of the mothers are alive. Twenty-four, or one-third, have had diabetes for over 13 years. The total and neonatal fetal losses are summarized in table 2.

It is significant that, of the infants lost, the mothers' course was complicated by one or more of the four complications shown in table 3. Furthermore, when any of these complications occurred, and that was frequently, the delivery was affected in one of the four manners shown in table 4.

COMMENT

From the results reported by other workers in this field, the total fetal wastage is about the same. The greater differences in figures are among the viable fetuses. Nelson, Gillespie, and White[2] have a 10% loss of fetuses over 28 weeks of gestation; Reis, De Costa, and Allweiss,[3] 13.6%; Miller,[4] 14.7%; Hall and Tillman,[5] 18.3%; Pedowitz and Shlevin,[6] 20.7%; and ourselves,[1] 22.2%. There are many other reports, but we have limited our discussion to those having a viable fetal mortality of 25% and less.

In the treatment of these patients, there were areas of agreement and disagreement among the various workers in matters of technique and methods of reporting. Placing these factors in sharp focus may be clarifying. All workers agree on several points. 1. Ketosis and ketoacidosis must be avoided and, when present, treated vigorously. 2. Premature termination of the pregnancy as a rule is advisable, often by cesarean section. All are aware that, though this procedure is no guarantee for a viable baby, it frequently offers the best chance. 3. Skilled pediatric care is necessary in the neonatal period, especially with particular understanding of the treatment of the premature infant.

The areas of disagreement are (*a*) the use of hormones, (*b*) the classification of the severity of the diabetes, (*c*) the type of diabetic care, and (*d*) the evaluation of results. With so many variables; there are bound to be differences of opinion, and the better results are attributed to the particular techniques employed. Thus, Nelson, Gillespie, and White,[2] the only group that used hormones, consider them a valuable contribution to a greater fetal salvage. Their loss was only 10%. Reis and his associates[3] and Miller[4] used no hormones, and these workers reported losses of 13.6% and 14.7%, respectively. Our results are not so good in view of the fact that we had a perinatal mortality rate of 22.2%. We did not use hormones. At first glance this difference is quite striking, but it is more apparent than real. Nelson, Gillespie, and White[2] eliminated 14 patients from their viable group because of therapeutic abortions done for preexisting retinal and renal disease. We did not exclude such patients, as we performed no therapeutic abortions. Indeed, we were fully aware of the poor prognosis, and when occasion indicated we placed the issue frankly before the prospective mothers. Since they wished to carry on, we acquiesced. As expected, though some of the babies were viable, they died shortly after birth. These were losses, and they were so recorded. As to the classification of the diabetes, what is severe diabetes? Is it a diabetic who goes on for years requiring 15 to 20 units of insulin for satisfactory regulation by any accepted technique and who develops retinopathy and other manifestations of diffuse vascular disease? Is it the diabetic without vascular disease who requires 50 to 75 units, or more of insulin to avoid ketosis? Then again, how would one classify two patients of about the same age and duration of diabetes with or without vascular disease whose insulin requirements vary, one requiring 25 units and the other 75? It becomes obvious from such questions that classification is difficult. We agree that vascular disease in a diabetic is a serious complication, but we also submit that the management of diabetes in such cases is no problem. It is a problem, however, in a young patient who has no vascular disease but who has a great tendency toward ketosis and requires large doses of insulin to remain ketone-free. It seems to us that this is the severe diabetic and that, in evaluating the severity of diabetes, some persons have been influenced by the degree and extent of vascular disease. They have been measuring the concomitants or sequelae of diabetes and not severity as judged by difficulty in management.

TABLE 3.—*Frequency of Complications in Seventy-Two Pregnant Diabetic Patients*

Complication	Number	%
Preeclampsia	13	18.1
Hypertensive disease	13	18.1
Ketosis	20	27.6
Hydramnios	21	33.3

TABLE 4.—*Termination of Pregnancy in Seventy-Two Diabetic Patients*

Termination	Number	%
Abortion	7	9.7
Induction	11	15.5
Spontaneous deliveries	17	23.6
Cesarean section	37	51.2
Total	72	100.0

As the treatment of the pregnant diabetic is complex, any simplification would be a step forward, provided the results were not sacrificed. Since our total fetal loss is not significantly higher than that of others and since our results were achieved without the use of hormones and with safe practical technique for the treatment of the diabetes, we have adopted the simpler methods. We are not satisfied with our results, however, and are constantly evaluating them and those of other workers and searching for information that will enable us to propose a more definite routine as well as to deliver more living infants.

SUMMARY AND CONCLUSIONS

Infant survival in the pregnant diabetic (comparable to the more favorable results reported) can be achieved (*a*) without hormone therapy and (*b*) by employing the clinical method for the treatment of diabetes. In treating pregnant diabetic women, ketosis must be avoided. This complication is, however, understood and can be treated.

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[3] Reis, R. A.; De Costa, E. J., and Allweiss, M. D.: Diabetes and Pregnancy, Springfield, Ill., Charles C Thomas, 1952.

[4] Miller, M., in Pedowitz, P., and Shlevin, E. L.: The Pregnant Diabetic, Bull. New York Acad. Med. 28: 440, 1952.

[5] Hall, R. E., and Tillman, A. J. B.: Diabetes in Pregnancy, Am. J. Obst. & Gynec. 61: 1107, 1951.

[6] Pedowitz, P., and Shlevin, E. L.: The Pregnant Diabetic, Bull. New York Acad. Med. 28: 440, 1952.

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Complications, such as toxemia, hydramnios, and hypertension, in about the 30th week or shortly thereafter are most serious. There is no specific treatment for them.

After the 32nd week, depending on complications, premature delivery offers the best, but by no means certain, chance of fetal survival. The exact time for delivery cannot be determined from any specific or past experience. Cesarean section is the procedure of choice in terminating the pregnancy of the diabetic patient with complications and an excessively large infant. It is the most practical approach but does not guarantee a living child. Experienced pediatric care and treatment of the newborn as a premature infant is imperative.

2 E. 94th St. (28) (Dr. Tolstoi).

IS STELLATE GANGLION BLOCK OF VALUE IN STROKE?

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and
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Millikan, Lundy, and Smith and Alvarez[1] have suggested that stellate ganglion block is of no value in patients suffering cerebrovascular accident. Previous reports disagree with this point of view.[2] Because of the doubt cast by these reports, we consider it timely to report our experience as a means of stressing the value of this therapeutic measure in stroke.

In 1947, one of us (J. E. R.) began to do stellate ganglion blocks on stroke patients. By 1949, we had accumulated sufficient experience and had seen enough good results following this therapy to be interested in a controlled study. An arrangement was made by which every other patient admitted to the neurological wards of the Philadelphia General Hospital with a diagnosis of cerebrovascular accident could be subjected to stellate ganglion block as often as indicated. In April, 1949, 37 such patients were admitted. Ganglion blocks were effected in 18 patients, and, of these, 9 (50%) left the hospital alive, and the other 9 died. Of the 19 patients who did not receive blocks only 5 (26%) left the hospital alive. The series was too small to be statistically significant, but the results were so encouraging that mortality data on patients admitted during the same period in 1948 (when no blocks were done) were obtained for comparison. In 37 consecutive admissions 8 patients (22%) left the hospital alive. In this series of cases we took the death rate of stroke patients in the hospital as a yardstick, and the figures heavily favor the treated cases.

The treated cases in the 1949 series were included in a previous report[3] of 100 cases of stroke treated by stellate ganglion block. Since that time an additional 58 patients with apoplexy have been treated with stellate block. These were consecutive, referred private patients, 43 of whom had conditions of less than one month's duration, and were, therefore, considered acute. The other 15 were first seen more than one month after the ictus and were classified as chronic.

Tables 1 and 2 give data on these 58 patients. Among the 43 acute apoplectic patients, cerebral thrombosis was both the commonest and the most responsive of the causes of cerebrovascular accident. Hemorrhage is poorly represented, because patients in whom gross hemorrhage is suspected are never given immediate block. Patients with encephalomalacia respond very poorly to stellate block or any other therapy, and the results bear this out. It is extremely difficult to define "improvement" in these patients accurately except when it is dramatic. Of the 17 with thrombosis, 11 had dramatic improvement; 2 of the 4 with embolus and all with spasm had dramatic results. Of the 26 who improved in the series, 69% showed dramatic improvement following the block. We have had the discouraging experience of having as many as 10 consecutive patients show no improvement. Fortunately, this occurred only after we had had some good results. Stellate block appears effective beyond coincidence or suggestion when a patient moves a previously flaccidly paralyzed extremity within a few minutes of the appearance of Horner's syndrome.

REPORT OF CASES

Case 1.—A 64-year-old white woman was stricken with left hemiplegia with a complete flaccid paralysis and almost complete left hemianesthesia on July 30, 1951. Right stellate block was done on August 1, and, within five minutes of the appearance of a right Horner's syndrome, she was able to perform gross movements of the left arm and leg. The following day the block was repeated, and fine movements of the left fingers were possible immediately afterwards. She was gotten out of bed. On August 3, the final block of the right stellate ganglion was done. Five minutes after this was completed, the patient could perform any desired movement of the left side of the body, and sensation was normal. She was discharged five days after admission, to resume her normal activities without further treatment.

Case 2.—A 61-year-old hypertensive white man awoke on May 1, 1952, with paresis of the left face and arm and flaccid paralysis of the left fingers. Right stellate ganglion block was done, and immediately after the appearance of a right Horner's

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From the departments of anesthesiology, Philadelphia General, Doctor's, Stetson, and St. Joseph's hospitals.

[1] (*a*) Millikan, C. H.; Lundy, J. S., and Smith, L. A.: Evaluation of Stellate Ganglion Block for Acute Focal Cerebral Infarcts, J. A. M. A. **151:** 438-440 (Feb. 7) 1953. (*b*) Alvarez, W. C.: Stellate Ganglion Block of Dubious Value for Stroke, Editorial, Mod. Med. **21:** 69 (Feb. 15) 1953.

[2] Leriche, R., and Fontaine, R.: Infiltration of the Stellate in Cerebral Embolism, Rev. de Chir **74:** 755-758 (Dec.) 1936. Mackey, W. A., and Scott, L. D. W.: The Treatment of Apoplexy by Infiltration of Stellate Ganglion with Novocain, Brit. M. J. **2:** 1-4 (July 2) 1938. Risteen, W. A., and Volpitto, P. P.: Role of Stellate Ganglion Block in Certain Neurologic Disorders, South. M. J. **39:** 431-435 (May) 1946. Gilbert, N. C., and de Takats, G.: Emergency Treatment of Apoplexy, J. A. M. A. **136:** 659-665 (March 6) 1948. Blain, A.: Cervical Sympathetic and Stellate Ganglion Block in Apoplexy, Preliminary Note on Indications and Technique, J. Michigan M. Soc. **47:** 1356-1358 (Dec.) 1948. Amyes, E. W., and Perry, S. M.: Stellate Ganglion Block in the Treatment of Acute Cerebral Thrombosis and Embolism: Report of 44 Cases, J. A. M. A. **142:** 15-20 (Jan. 7) 1950. Naffziger, H. C., and Adams, J. E.: Role of Stellate Block in Various Intracranial Pathologic States, Arch. Surg. **61:** 286-293 (Aug.) 1950. Nosik, W. A.: Stellate Ganglion Block in Cerebro-Vascular Accidents, Ann. Int. Med. **35:** 409-416 (Aug.) 1951. Alvarez.[1b]

[3] Ruben, J. E.: Results of Stellate Ganglion Block Therapy for Cerebro-Vascular Accident, J. Philadelphia Gen. Hosp. **1:** 110-115 (Oct.) 1950.

syndrome motion returned to the left third, fourth, and fifth fingers, and the weakness of the left face and arm lessened. The patient improved in the next 24 hours; the right stellate block was repeated, and he could then move all fingers of the left hand. In the next 24 hours there was some regression, but repetition of the block was followed by a dramatic improvement. The block of the right stellate ganglion was repeated two more times in the next four days. After this the patient had only some clumsiness in the movements of the fingers of the left hand. This disappeared in the following week, and he was discharged without residual effects two weeks after the ictus.

Table 1.—*Acute Cerebrovascular Accident Treated with Stellate Block*

	Improved		Not Improved		Died		
Diagnosis	No. Patients	%	No. Patients	%	No. Patients	%	Total No. Patients
Thrombosis	17	68	5	20	3	12	25
Embolus	4	66	1	17	1	17	6
Encephalomalacia	0	0	1	17	5	83	6
Spasm	5	100	0	0	0	0	5
Hemorrhage *	0	0	1	100	0	0	1
Total	26	60.4	8	18.6	9	21	43

* Block effected more than 24 hours after hemorrhage.

Case 3.—A 60-year-old white man with mitral stenosis and auricular fibrillation had sudden, complete right hemiplegia with total dysarthria on Nov. 5, 1952, at 10:00 p. m. A diagnosis of cerebral embolus was made, and he was admitted to the hospital the following morning. At 4:00 p. m. on November 6, he had total right flaccid paralysis, dysphagia, unintelligible dysarthria, right mass withdrawal reflex, and equivocal right Babinski reflex. The right side of the face was weak, the tongue protruded to the right, and the patient was semistuporous. Ten minutes after left stellate ganglion block, which resulted in a prompt Horner's syndrome, the patient became conscious and had gross movements of the right arm and leg. In the next 24 hours, he showed no further improvement. The block was repeated, and fine movements returned immediately to the right fingers and toes. After four more left stellate blocks in the next 16 days, the patient was able to walk with help on November 24. By November 30, he was able to walk alone in the walker and was practicing writing. On December 5, he was able to walk without a cane and could speak a few words. He was discharged from the hospital December 12. A total of nine left stellate blocks had been given during his five weeks of hospitalization. On Jan. 7, 1953, the patient was doing limited work, was able to write well enough to sign checks with his right hand, could make himself understood, and could care for his personal needs.

There are those who maintain that such results might have been obtained without stellate block. But we wish to emphasize that in these cases, and in many others, dramatic improvement was observed almost immediately after the appearance of Horner's syndrome induced by stellate ganglion block.

The use of stellate ganglion block in the patient who has had a stroke is based on the theory that there is an element of reflex cerebral vasospasm associated with the vascular insult. If this spasm is prolonged, the resulting ischemia may impair the function of a greater area of brain tissue than that affected by the vascular lesion. On this basis, stellate ganglion block is of most benefit when effected early. If the vascular injury involves a vessel so large that massive cerebral infarct occurs, stellate ganglion block will be of no value. But if it involves only a small vessel, abolition of the reflex vasospasm may preserve an area of brain tissue that might otherwise be permanently damaged. Since there is no way of distinguishing immediately after the ictus whether the vascular insult is in a large or small vessel, every patient with a stroke not caused by hemorrhage deserves a therapeutic trial with stellate block. It is our practice to effect at least three blocks at 24 hour intervals before concluding that a patient will not be benefited.

For some unknown reason, a few patients respond to block months or years after the ictus. On this basis 15 chronic hemiplegic patients have been treated with stellate ganglion block, and these results are given in table 2.

Case 4.—A 60-year-old white man had a cerebral thrombosis in July, 1952. He was immediately hospitalized and treated conservatively (but without stellate block) for three weeks. This led to a stabilization of his general condition but no improvement of the hemiplegia. He was discharged with total right flaccid paralysis. When he was examined on September 15, there was a complete flaccid paralysis of the right arm and leg and right facial weakness, including the tongue and eyelid. His speech was markedly impaired by aphasia and dysarthria, and he complained of severe pain in the right shoulder.

After left stellate ganglion block and the appearance of a left Horner's syndrome, the pain in the right shoulder stopped, and the patient was able to move the right leg slightly. Corrective exercises were recommended, and potassium iodide was added to the ascorbic acid, rutin, and phenobarbital that he had been taking. At the end of two weeks and after five stellate ganglion blocks, he had sufficient power in the right upper and lower extremities to stand in a walker and to manipulate the device with help. One month after treatment was begun, he had added abduction and adduction of the thigh to extension of the leg on the thigh, and rotary motion of the shoulder appeared earlier. He was fitted with an ankle brace to prevent inversion of the foot and walked without aid. Two weeks later (after 12 blocks) the patient was able to flex the right arm at the elbow. Appropriate and progressive corrective exercises were prescribed and taught at each stage of improvement. Electric muscle stimulation was begun after the first month of treatment, along with indicated physical therapy. In seven weeks, he was able to walk with a cane, and one week later he was walking to the dining room for his meals. Maximum improvement from stellate block therapy was reached after 22 blocks in four months. At this time the patient was able to go up and down the steps, dress daily without help, and walk unaccompanied.

Table 2.—*Chronic Cerebrovascular Accident Treated with Stellate Block*

	Improved		Not Improved		
Diagnosis	No. Patients	%	No. Patients	%	Total No. Patients
Thrombosis	4	31	9	69	13
Hemorrhage	0	0	2	100	2
Total	4	27	11	73	15

METHOD

Stellate block in this series was produced by depositing 10 to 20 cc. of local anesthetic solution on the transverse process of the sixth cervical vertebra by the anterior approach after the method described by Pereira.[4] Procaine (1%) or the equivalent concentration of similar drugs was used. The block was repeated at increasing periods of time until the patient showed no further improvement after a successful block. In six years of using this block by the method described, we have not had a single mortality or any disabling sequelae. We

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4. Pereira, A., de S: Blocking of the Middle Cervical and Stellate Ganglions with Descending Infiltration Anesthesia: Technic, Accidents and Therapeutic Indications, Arch. Surg. 50: 152-165 (March) 1945.

believe that stellate ganglion block must be combined with other treatment, including general medical support and good nursing care, in the management of the patient who has had a stroke. Encouragement of the patient to build confidence in himself and his physicians is essential. Physical medicine, with its corrective exercises, reeducation, muscle stimulation, and appliances, is important. In the acute phase, any slight degree of cardiac decompensation is significant, and appropriate treatment should be started promptly.

SUMMARY AND CONCLUSIONS

Fifty-eight previously unreported cases of stroke treated to maximum benefit with stellate ganglion block in addition to usual routine management are reported. More than 60% of the persons showed some improvement immediately after the appearance of Horner's syndrome. In almost 70% of those showing improvement, the benefit was striking. Since these were all private, referred patients, their general medical, nursing, and adjunct care was probably above average. This may account for our better than average results.

Increase in muscle power and control has been observed to follow stellate ganglion block in acute cases and less frequently in chronic ones. This increase has followed the appearance of Horner's syndrome (indicating a successful block) in minutes, not hours, after the injection. On the basis of our experience and results, we believe that stellate ganglion block in experienced hands is innocuous and that, until some more definitive therapy is devised, patients suffering from stroke due to embolism, thrombosis, or spasm should not be denied the possible benefits of this therapeutic measure.

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MEPERIDINE HYDROCHLORIDE USED INTRAVENOUSLY BEFORE GASTROSCOPY

PRELIMINARY REPORT

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Most patients undergoing gastroscopic examination are given a barbiturate orally and a narcotic and an antispasmodic-antisecretory drug by hypodermic injection.[1] The dosage and time of administration of these drugs vary widely. Monat,[2] in an analysis of 3,000 cases, studied the effect of morphine, meperidine, and Pantopon (contains the total alkaloids of opium as soluable hydrochlorides) in combination with atropine sulfate and pentobarbital alone as premedication. In conjunction with 2% cocaine topical anesthesia, these drugs were administered subcutaneously or intramuscularly one hour before examination. Pantopon proved most satisfactory, especially in younger persons, while pentobarbital was better in older and less tense patients. Morphine sulfate was next best to Pantopon, although it occasionally produced a severe reaction with chills, and often the patient became so drowsy that examination was not possible. He noted that, with meperidine hydrochloride given intramuscularly, the patients were euphoric, cooperative, and relaxed and that analgesia was obtained, but that, with or without atropine sulfate, it sometimes produced an excessive amount of gastric secretion. Hufford [3] used meperidine intramuscularly in doses of 75 to 100 mg. and noted a combined sedative and analgesic effect manifested by calmness, an increase in the pain threshold, less gag reflex, diminution of smooth muscle spasm, and reduced salivary secretion. Five of the 38 patients complained of dizziness, and one was slightly nauseated; these symptoms, however, disappeared within 20 to 30 minutes if the patient remained at rest. Batterman [4] noted side-effects to the intramuscular administration of meperidine in 25% of his hospitalized patients. Other observers [5] have noted the ease with which endoscopic examinations are carried out when meperidine is used intramuscularly or subcutaneously immediately before the examination.

In a large medical center in which many examinations are performed, there is often disparity in the time of drug administration and the time of examination. This leads to anxiety and uncooperativeness of the patient because the effectiveness of the premedication has worn off, as it was given so long before the examination, or so recently the effective sedation has not yet developed. Such experiences have made many aware of the need for a medicament, short of general anesthesia, that will satisfy the criteria for successful gastroscopic examination, namely, sedation, relaxation, analgesia, diminution of spasm, reduction in the gastric and salivary secretions, and cooperativeness of the patient. Toward this end, the slow intravenous administration of morphine sulfate and methadone hydrochloride has been em-

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From the Department of Medicine, Division of Gastroenterology, Jefferson Medical College and Hospital.

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5. Cropper, C. F. S.: Premedication for Gastroscopy, Correspondence, Brit. M. J. **2**: 218, 1950. Carter, M. G., and Kyllonen, A.: Beside Bronchoscopy and Esophogoscopy: Indications and Technique, Connecticut M. J. **14**: 218, 1950. Chamberlain, D. T.: New Techniques in Endoscopy, Gastroenterology **15**: 162, 1950. Rovenstine, E. A., and Batterman, R. C.: Utility of Demerol as Substitute for the Opiates in Preanesthetic Medication, Anesthesiology **4**: 126, 1943.

ployed.[6] Thiopental (Pentothal) sodium [7] and thiopental sodium with curare and intranasal oxygen have been used as general anesthesia; subsequently thyamylal (Surital) sodium was substituted by Atwater [8] for thiopental sodium. By this method it was noted that the anxiety and restlessness of the patient were eliminated and that the examiner was provided with a quiet and cooperative subject. Its use, however, requires the presence of a trained anesthesiologist, because the drug is given to the point of narcosis.

METHOD OF STUDY

Meperidine hydrochloride has been used to supplement general anesthesia for endotracheal intubation prior to the induction of anesthesia,[9] to overcome the bucking reaction to an endotracheal tube,[10] and, intravenously, to obtain pain relief during curare anesthesia.[11] The intravenous use of meperidine hydrochloride for gastroscopy was suggested by one of us (P. J. C.) because of previous experience in obstetrics, based on the work of Roby and Schumann [12] and the later work of Schumann.[13] We have now used it intravenously in 146 patients, the majority of whom were relaxed and cooperative during the examinations. In this group, side-effects were minimal. These patients were observed in four different hospitals, and some of the examinations were performed by trainees under the supervision of one of us (C. W. W.).

Of the 146 patients examined, 115 were inpatients and 31 were outpatients. The group included patients with cardiac, renal, hepatic, or pancreatic disease. All patients were prepared in the same manner. Examination was usually carried out in the morning while the patient was fasting. One hour before examination, 0.4 mg. of atropine sulfate was given subcutaneously, and 15 minutes and 5 minutes before examination a gargle (1.8 ml.) of 2% tetracaine (Pontocaine) hydrochloride was used. With the patient lying on the table, meperidine hydrochloride was given intravenously over a period of one to three minutes immediately prior to examination. The patient was then placed in the left oblique position and gastroscopy performed. The dosage of meperidine varied from 50 to 100 mg. and was based on weight and age; one patient received 150 mg. The drug is diluted with distilled water to a volume of 10 ml. Initially 0.5 ml. was injected and a minute allowed to pass; if the patient did not experience a reaction, the injection was continued over a two minute period. After the examination, patients remained in bed for one or two hours; after that time outpatients were permitted to leave the hospital. After several months' experience with the foregoing method we decided to discontinue the use of the atropine sulfate and the gargle and to use meperidine hydrochloride as the only premedication. The withdrawal of these adjunct medicaments did not detract in any way from successful examination, and, since it eliminated the risk of topical anesthesia and reduced the preparation to a minimum, it appeared to offer additional advantages.

RESULTS

Of the 146 patients examined, 13, or 8.9%, received 50 mg. of meperidine hydrochloride; 18, or 12.3%, 75 mg.; and 104, or 71%, 100 mg. One patient received 150 mg. Fourteen examinations, or 9.5%, were unsuccessful. Cooperation and relaxation were obtained in the majority of patients; side-reactions occurred in 22, or 15.1%, of the patients. For purposes of evaluation the patients were divided into three age groups. The youngest patient was 21 and the oldest 76 years of age.

In group 1 there were 39 patients between the ages of 20 and 40 years. One patient received 75 mg. of meperidine; the others received 100 mg. Side-reactions occurred in 5, or 12.8%, of the 39 patients. Dizziness and euphoria occurred in three patients and nausea alone in two. One patient received 0.1 gm. of pentobarbital one-half hour prior to the meperidine and was oversedated, but this did not prevent satisfactory examination. Examination was unsuccessful in three, or 7.6%, of the patients; in two, lack of success was due to uncooperativeness and in one, unallayed anxiety.

In group 2 there were 64 patients between 41 and 60 years of age (table 1). This was the largest group of the series. One patient received 150 mg. of meperidine; 2, 75 mg.; 2, 50 mg.; and 59, 100 mg. Cooperation and relaxation were obtained in nearly all of the patients. There were nine, or 14.1%, who experienced side-reactions of dizziness, euphoria, and nausea. The one patient who received 150 mg. of meperidine was cooperative but not relaxed, and the gastroscope could not be passed. Six, or 9.3%, examinations were unsuccessful; five were attributable to cardiospasm and one to perforation of the esophagus. The latter occurred in a 48-year-old white man who complained of intermittent eructations of approximately 10 days' duration. He had a history of closure of perforated duodenal ulcer and a severe unexplained anemia. Roentgen studies showed nothing abnormal, and the stool was negative to benzidine. The patient received 100 mg. of meperidine intravenously prior to gastroscopic examination and experienced no untoward reaction. The examiner had no difficulty in introducing the gastroscope, but, during the course of the examination, a 1 cm. perforation of the esophagus occurred just above the cardia of the stomach. Apparently the patient did not experience any acute pain or abnormal sensation when this occurred. The meperidine may have played an important role in the

TABLE 1.—*Results of Administration of Meperidine Hydrochloride Before Gastroscopy in Sixty-Four Patients Between Ages of Forty-One and Sixty*

		Gastroscopy Successful		Patient's Condition		Side-Effects		
Dose, Mg.	No. of Patients	Yes	No	Cooperative	Relaxed	Nausea	Dizziness	Euphoria
150	1	..	1	..	..	..	..	..
100	59	54	5	50	52	1	3	3
75	2	2	..	2	2	..	..	..
50	2	2	..	2	1	1	1	1

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[12] Roby, C., and Schumann, W. R.: Demerol (S-140) and Scopolamine in Labor: A Preliminary Report, Am. J. Obst. & Gynec. **45**: 318, 1943.

[13] Schumann, W. R.: Demerol (S-140) and Scopolamine in Labor: A Study of 1,000 Cases, Am. J. Obst. & Gynec. **47**: 93, 1944.

prevention of the immediate shock often described when the distal end of the esophagus is ruptured.[14] The perforation was successfully closed surgically, and following convalescence further study failed to reveal any factors predisposing the patient to this accident.

In group 3 there were 43 patients over 61 years of age (table 2). This group showed the best response to the drug; most of the patients were cooperative and relaxed. The meperidine was given in smaller dosages with satisfactory effect; 11 patients received 50 mg.; 15, 75 mg.; and 17, 100 mg. There were eight patients, or 18.6%, who had mild side-reactions of dizziness and euphoria; none had nausea. None of the patients who received a 50 mg. dose had any side-reactions. Thirty-nine of the 43 patients were examined successfully. Of the four, or 9.3%, unsuccessful examinations, three were due to some form of obstruction in the lower esophagus; in one patient, this was associated with congestive heart failure, in another with scoliosis, and in a third with a lesion in the cardia of the stomach. The fourth patient had gastric retention resulting from pyloric obstruction.

COMMENT

Heretofore our routine preparation of patients for gastroscopy consisted of an intramuscular injection of morphine sulfate, 15 mg. (0.25 grain), with atropine sulfate, 0.4 mg. (1/150 grain), given 45 to 60 minutes before examination and a gargle of 2% tetracaine given 15 minutes and again 5 minutes before introduction of the scope. Although side-reactions to this premedication were only minimal, it left much to be desired regarding adequate sedation and analgesia, particularly in the more apprehensive patients. Furthermore, since these drugs were usually given to the patient on the ward prior to his being sent to the examining room, it was often difficult to maintain uniformity in the type, amount, and time of administration of the premedication. Finally, although in our own experience no untoward reaction to topical anesthesia has occurred, serious to fatal consequences have been reported.

Table 2.—*Results of Administration of Meperidine Hydrochloride Before Gastroscopy in Forty-Three Patients Between Ages of Sixty-One and Seventy-Six*

		Gastroscopy Successful		Patient's Condition		Side-Effects	
Dose, Mg.	No. of Patients	Yes	No	Cooperative	Relaxed	Dizziness	Euphoria
100	17	15	2	17	16	1	5
75	15	14	1	15	14	2	3
50	11	10	1	10	9	..	..

From our experience thus far, the administration of meperidine hydrochloride for gastroscopy has been found simple, and the resulting sedation and analgesia have been superior to the results we formerly obtained with morphine and atropine. In many patients, the effect was so striking that they appeared to be in a deep sleep but remained cooperative and responded to instructions. The side-reactions of dizziness, nausea, and euphoria actually were so minimal that they can be discounted. We attributed this to the position of the patient, dilution of the drug, and rate of injection. Schumann noted that there were greater side-effects when the drug was injected rapidly and that many of the side-effects subsided when the patient assumed a prone position. Pronounced changes did not occur in blood pressure or pulse rate. Frequently patients commented on the complete sense of relaxation that was achieved so rapidly. This was particularly helpful in the tense patient who was willing to have gastroscopy performed but who asked to be "given something that would knock him out." In essence, intravenously administered meperidine hydrochloride is valuable in gastroscopy because it effectively produces adequate relaxation and analgesia, with minimal side-reactions. Because it is given immediately prior to examination, it permits the type, amount, and time of administration of premedication to be controlled completely by the examiner. Furthermore, since it can be used as the only premedication, it eliminates the risk of topical anesthesia.

SUMMARY AND CONCLUSIONS

We find the intravenous administration of meperidine satisfactory for gastroscopic examination, with or without topical anesthesia and atropine sulfate given subcutaneously. The elimination of the risk of topical anesthesia is an important advantage of this method of preparation. We also note that the optimum effect of the drug is obtained at the desired time; that the older patients are more relaxed with smaller amounts of the drug; and that side-reactions to the drug are mild and occur with equal frequency in all age groups. There were no general reactions. Patients who have a great deal of anxiety toward gastroscopy tolerate the procedure well when this drug is administered. The hazards and requirements of general anesthesia are not encountered when meperidine hydrochloride is used.

ADDENDUM

Since this paper was written, we have examined an additional 110 patients gastroscopically, with meperidine hydrochloride as premedication. Analgesia was satisfactory, and there were no untoward reactions.

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[14] Schindler, R.: Gastroscopy, ed. 2, Chicago, University of Chicago Press, 1950, p. 92.

Treatment in Caisson Disease.—It was early discovered by the caisson workers themselves that the only remedy for the malady was to re-enter the high air pressure. A recompression apparatus in the form of a medical air-lock is supplied at all caisson works and in all ships engaged in deep salvage. On the appearance of any symptoms the worker is placed in the compressing room, and the pressure is run up to the level at which he has been working when it is usual for the symptoms to diminish rapidly or to disappear. After the recompression the decompression must be carried out very slowly, for the bubbles of nitrogen once formed in the tissues are not easy to get rid of, although they may be kept at a small size by the pressure. A patient apparently at the point of death with cyanosis and coma may completely recover in a few hours by recompression. When symptoms have appeared the decompression should take from five to twenty-four hours. Caisson workers and divers should wear on the lapels of their jackets a metal tablet clearly inscribed with a notice stating both their occupation and the address of their place of work. They should sleep and live close to the medical air-lock in order that they may be near aid during the first hours following decompression.—D. Hunter, M.D., Occupational Diseases with Neurological Symptoms and Signs, *The Practitioner,* July, 1953.

A CIVIL DEFENSE DIRECTOR LOOKS AT THE MEDICAL PROBLEM

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If we accept the premise, as we must, that the primary objective of civil defense under disaster conditions is to save life, the effective organization of our medical resources is imperative. Technical or professional knowledge, however important and precious it may be, is not enough. It must be organized in order that it may be fully utilized. A civil defense director cannot be concerned with technical and professional details of the treatment of casualties. That is the business and the responsibility of the physicians and members of other segments of the combined medical professions. But he is, and must be, concerned with the organization of every particle of the medical resources, with which America is blessed so abundantly. In his mind, the major questions are: Is our plan as perfect as we can make it? Does it provide for the fullest possible utilization of our medical resources? Have we organized or are we organizing these resources now, the hard way, or are we accepting the easy way of planning for post-attack organization, amidst confusion, hysteria, and panic? All these can be formulated in one basic question. Will our program save the maximum number of lives in the first 10 hours, the first day, the first week, or even the first month, of the disaster? The civil defense director's question is not how but how *many*?

In planning for any project, two things must be known as thoroughly as possible. The first is the problem and the second the means or resources available to us for the solution of that problem. In military parlance, this is known as the estimate of the situation, and it is the basic foundation for the planning of every battle and every campaign. It is basic in the training of every staff officer. Reduced to civil defense terminology, this becomes, first, an accurate estimate of the destructive effects of the atomic bomb and, second, a true and complete picture of our rescue resources. There cannot be sound, practical planning without this knowledge.

THE ATOMIC BOMB ATTACK

From research conducted at Hiroshima and Nagasaki, reinforced with data obtained from our own test atomic bursts, we have a fairly accurate estimate of the effects of the atomic bomb. It is true that most of the available information is on the 1-X, or Hiroshima-type, bomb. But from this basic information we are able to calculate the comparative power of destruction of the 2½-X, 4-X, or 8-X bombs. The estimate as to which bomb and how many may be used on a certain city is a part of strategic planning and urban analysis program and could not be considered without lengthy explanation.

Of course, the structural effects alone can do no more than indicate the number of casualties. The determining factors are: 1. The number of persons in the area at the time of attack. Here, time is an important element. The population distribution of any city varies greatly from day to night. The downtown area of a city may contain one-quarter or more of its population during business hours and only an extremely small percentage at night. Information on population concentration of every major city is available for business hours and residential distribution. 2. The status of advance warning. This is, perhaps, the most important element in the protective functions of civil defense. There is an army axiom that the first requirement of defense against aerial attack is an adequate warning system. This applies with equal force to civil defense. 3. Shelter program. This is, perhaps, the weakest link in the entire civil defense program. Yet, in each city, there are a number of buildings that would provide acceptable shelter. Some of our largest cities have subways. And we are now beginning to have a sound family shelter program. 4. The status of public education in the principles of self-protection. 5. Geographical layout of the city. Terrain features and even the shape of the congested zones could materially influence the effects of the bomb; for example, the casualties in Nagasaki were about one-half of the number of Hiroshima, owing almost entirely to physical layout and terrain feature differences of the two cities.

Knowing these factors, once we locate ground zero, or the ground point under the center of the blast, and the size of the bomb is estimated, we can calculate the estimated number of casualties. For medical planning purposes, we should select a number of probable aiming points and calculate the number of casualties for day and night distribution of population and for various sizes of bombs. Regardless of our resources, each time we do this we find the results staggering in both the tragedy and the enormity of the task that would confront the medical profession in the event of attack.

It is significant that unless there is a daytime attack and the bomb is burst over the business district or some concentrated industrial area, the size of the city does not substantially affect the number of casualties from identical bombs. With some differences, the concentration of population in our cities does not vary with size. In other words, the residential distribution of population follows approximately the same pattern. Generally, cities with larger populations cover correspondingly larger ground areas. Medical resources, however, are rather well distributed on the basis of population. Consequently, a city of 300,000 has a far greater medical problem than one 3, 4, or 10 times its size.

We must know the number of available physicians, dentists, nurses, pharmacists, nurses' aids, laboratory technicians, first aid workers, and other medical personnel, speaking in the broadest category. The available facilities, equipment, and supplies must also be determined. In addition, it is necessary to know how much equipment and supplies can be purchased with the funds governments at all levels are willing or able to provide and how much assistance in both personnel and supplies the neighboring communities could furnish. The help that could be expected from other civil defense services, particularly fire, transportation, warden, engineering,

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Director of Civil Defense, Toledo.

communication, and police must also be estimated. Information on these resources is available. It is a part of the urban analysis program.

The next step is the actual planning. Here the human factor enters. All persons do not think alike, and planning loses much of its systematic nature. It becomes also an art. So we plan differently, influenced not only by our academic training but also by practical experience in actual or related matters, and by our observations. Either theory or practical experience, or both, can be used as the basis for planning. The plan arrived at may be a slipshod, poorly mimeographed piece of administrative bulletin, or it may be a beautifully executed document. I know the painstaking care, the concentration, the research, and physical and mental energy required to produce an above-average plan, and I have experienced the jubilant fever of achievement. But a plan must be implemented, and implementation means organization.

Organization is a pre-attack and not a post-attack objective. I have heard of plans of assembling personnel after the attack in prearranged areas and then organizing them into teams. One can imagine the magnitude of confusion that would prevail even under the best imaginable conditions following an atomic attack. Is it not stretching the imagination even to consider that we could organize our professional personnel into teams or units under such conditions? The time element must also be considered. Medical assistance must be given to the seriously injured as quickly as possible.

Our medical profession has become highly specialized, yet, under disaster conditions, each physician must be able to care for the seriously injured, at least in triage operations, regardless of the type of wounds. Our medical committee believes that briefing of physicians, at least in the triage phase of operations, is necessary. This applies also to other professions. But, notwithstanding this premise, we must realize that our medical resources are so limited that alone they could not operate effectively. They must be backed by many times their numbers of trained and organized lay volunteers.

We Americans have a rather peculiar and highly valuable characteristic. We like to organize. Even if we hold a small meeting, we have it on an organized basis. And our striving for perfection and our program of mass production of almost everything have made us realize the great value of training. If we hire persons, whether to run a drill press, operate a typewriter, use the tools of any trade, or even to dig a ditch, we want those who are trained. If we believe that training and organization are necessary in the ordinary pursuits of life, can we require less in the tremendous task of saving human life?

To cite a military parallel, what would happen to a field army if the commanding general had only a relatively few highly trained officers, with the rest of his forces untrained, or if he had all the men he needed but they were not organized? If he attempted to organize them after he was attacked, the result would be chaos and panic and inexcusable slaughter.

To expect less than that if we were to meet an atomic attack without training and organization is like a fantastic dream. Our medical resources are so limited within the concept of estimated requirements in an atomic disaster that the highest type of organization, providing for the most efficient utilization possible of our professional personnel, supplemented with trained auxiliaries, is imperative if we accept the principles of our American heritage that human life is the most precious possession of our nation.

The simplest method in planning and organization is to follow established procedures. We know that our army system of evacuation is the most advanced in the world, as was well proved in World War II and again in the Korean campaign. In civil defense, however, there is no similarity of problem nor of resources.

First, the carnage of an atomic blast on a city would make even Napoleon's debacle at Waterloo or the British tragedy at Dunkirk seem like a minor catastrophe. Within the capabilities of field weapons so far used, a 10% loss in 24 hours of battle is a generous estimate. In an atomic attack on a city the casualties could run from 25 to 50% of the population, not in 24 hours but in 24 minutes or less.

In the field we have highly trained, disciplined and organized units, fully equipped to carry out battle or campaign objectives. Teamwork is developed to a high degree of perfection, and even in the confusion of battle there always is control. In civil defense there may be training and organization, but all on a volunteer basis. Discipline can come only through the highest development of volunteer leadership and service. While an army unit has a medical table of organization to care for the maximum number of estimated casualties, even our largest cities cannot hope to provide sufficient professional medical personnel for the adequate care of the number of casualties that we must envision under atomic attack. The Army also has the required equipment and supplies and facilities to meet estimated casualty requirements. In civil defense, we cannot even dream of such abundance of supplies, equipment, and facilities.

Even in World War II, now considered a long time ago, all our wounded had excellent care. We had highly trained and specialized surgical teams almost up in the front lines. Farther back we had field hospitals, then mobile evacuation hospitals and the fully equipped general or base hospitals. Aside from those, we still had the great hospitals in this country. Collection and evacuation of the wounded, always through professional medical channels, was extremely rapid, orderly, and definite. In civil defense such organization in depth is just not possible. In the field we have only one front line; in civil defense every major city could be its own front line within a few hours! There might be no place to fall back and little or no reserves to call on.

In civil defense equipment and supplies, we as a people have adopted the most parsimonious economy that we have ever applied to any part of our national structure. For four years, including the current fiscal year, Congress has appropriated less than 200 million dollars for civil defense, practically putting all the burden on the states. Some of our states have been fair in the allocation of funds, but others just "passed the buck" to the cities. Local governments do not possess the tax resources to finance civil defense on an adequate scale. This applies to medical equipment and supplies as well as to other components of the civil defense structure.

Another important factor to be considered is the fact that in the field the wounds are almost entirely from bullets and explosive elements, such as shells and aerial bombs. Bad as these are, they are not so bad as the tremendous number of injuries that would result from an atomic blast, of hurled structural elements goring human bodies and crushing them beneath. Atomic radiation and burns would be major problems. Spending a half hour to see the Japanese medical color films of the Hiroshima tragedy is enough to give any civil defense director an idea of the magnitude of the problems to be faced.

All these factors were considered when we initiated the Toledo Medical Plan. We knew that we had only about 500 physicians and a correspondingly low number of other professional medical personnel. We had developed our basic civil defense plan, but the medical plan came as a later development.

Our academy of medicine, even before it was requested to do so, appointed an excellent committee on civil defense. Dr. Richard Hotz was made chairman, and among the members was Dr. Roscoe H. Snyder. Under the leadership of these two veterans of the gruelling Pacific campaign, our plan of organization and operations was initiated.

PRELIMINARY FACTORS IN PLANNING

Because of the extreme shortage of physicians, dentists, pharmacists, and nurses, it was imperative that the plan provide for the most efficient utilization of medical personnel possible. We could not afford to have doctors walking about among patients in casualty or collecting stations. The tragic picture of tens of thousands of casualties that may be thrust upon the city demanded that their care be on a mass production basis. The nature of casualties under atomic blasts demanded that all the seriously wounded who had a chance to survive be taken to points of definitive treatment as rapidly as possible. Triage, an inclusive medical term that I learned to understand and appreciate, was a professional function. This meant that, in the opinion of our medical committee, there must be physicians, dentists, nurses, and pharmacists right in the disaster area. This was a requirement the committee deemed not only practical but imperative.

We realize that medical personnel alone would be incapable of carrying out the tremendous task of evacuation. They would have to be supported by many times their number of trained and organized nonprofessional volunteers. Also, our city could not financially support a medical program, even on a matching fund basis, that would envision the expenditure of a million dollars or more. Another factor was that both personnel and equipment would have to be dispersed on as wide a scale as possible. Finally, the plan had to have city-wide acceptance, which could come only from city-wide participation.

THE GENERAL PLAN

The Toledo plan is in two phases. The first phase is the enlargement of our existing hospital staffs and facilities, as a mutual aid structure, to several times their normal bed capacities, to help in caring for the wounded of any other city in our area in case it was attacked and we escaped. This phase has been fully organized for some time. Phase 2 is the plan and organization to care for our own wounded if we were attacked. (Toledo is a critical target area. Also, it is in the orbit of Detroit, certainly one of the most desirable enemy targets in the United States. Incidentally, Ohio has more target cities than any other state.) It is in this phase that we cut a new road in the field of medical rescue organization.

Personnel.—We decided to organize medical field units, each to be composed of 1 physician, 1 dentist, 2 or more nurses, 2 nurses' aids, 1 pharmacist, and 80 trained laymen. We realized also not only the necessity of clergymen in the disaster area in administering spiritual aid to the injured but also the value of their moral leadership in the control of hysteria and panic and their need in comforting the distressed. So after a conference with our spiritual aid committee, we decided to attach two or more clergymen, one Protestant, one Catholic, and, insofar as available, one Jewish, to each team. The table of organization for the lay personnel is three deep, which is not only advisable but necessary to provide for around-the-clock operation. We could not do that with the professional persons, because there were not enough of them. So, under disaster conditions, our doctors, dentists, nurses, pharmacists, and clergymen would have to be in the field for many hours without even a hope of relief.

There was never any question about the cooperation of the medical profession, of doctors, dentists, nurses, and pharmacists. It was there, even in the beginning. Clergymen also responded to our call. So we had the professional persons for assignment to our medical field service, but we needed many thousands of lay volunteers. There we made a wise decision. This was to organize our medical field service around our school structure. We went before our council of parent-teacher associations and officials of our public and parochial schools and presented our program. Our primary request was that they provide 80 lay volunteers in the area of each school. Gordon Jeffrey, then PTA Council President; E. L. Bowsher, superintendent of public schools, and Monsignor Norbert M. Shumaker, superintendent of Catholic schools, said yes without hesitation. This was excellent. But we had another request.

Supplies.—We could not see any means of financing the medical supply program for our field operations. Again, our medical leaders had a practical idea. Why not ask the PTA or related organizations to provide triage supplies? So we did. We decided on a basic table of equipment of not less than 8 litters, 200 triangular bandages, 200 bandage pads, and 2 sets of splints for each unit. We did not even suggest that these be purchased. In fact, we asked that they be homemade, by persons from the PTA, mothers' clubs, Boy Scouts and Girl Scouts, and other organizations. This, also, was accepted. Next, we presented the project to a meeting of representatives of PTA, school principals, mothers' clubs, Boy Scouts, and Girl Scouts. Again, it was accepted. Through the schools, we distributed leaflets, with a brief explanation of the project, and asked parents and others to volunteer for the medical field service. Response was excellent. Unfortunately, we were not able to follow up as effectively as needed. While a number of teams were quickly organized and trained, in other cases organization was not effected. We realized, also, that a large staff of professional and lay leaders was essential.

At that time through mimeographed, illustrated circulars we explained how triangular bandages and bandage pads could be made from old bed sheets, to be sterilized in our hospitals and then packaged and stored in unit schools, and how a few 2 by 2's, with a piece of canvas or old rug, can be converted into a litter, and pieces of boards into splints. Soon Girl Scouts and others were collecting old sheets, and Boy Scouts helped PTA male members make litters and splints, while mothers' clubs and PTA members were making bandages. Our program is not completed; however, several months ago, the city council allocated funds for an assistant director and secretary for our medical section. Our volunteer staff is rather complete, in both the professional and the lay components. We are preparing for a really effective campaign this fall, to complete the entire organization before the end of the school year.

PLAN OF OPERATIONS

Our plan of operations is simple and practical. After the all-clear signal, our medical field units would assemble at their unit schools, and pick up their supplies. Large trucks, to be used as ambulances, would be furnished automatically by the motor transportation service. In addition to the organization equipment, lay members would bring with them blankets, a radio, and some other supplies.

We have 86 schools, and the maximum available medical field units would be about 90. Even if one-third of the teams were to become casualties, we would still have 60 units. Even a cursory examination brings out the dispersal value of this plan of organization. We are placing our medical resources in the city not in 1, 10 or 20, but in 90 baskets.

Upon radio direction and under zone control, the unit physician and professional personnel and a detachment of the lay volunteers would go into the disaster area. There, the function of the teams would essentially be that of triage, but they would be under professional direction. It would be the physician who would determine who should or should not be evacuated, and he would establish prioritites. Preparation of the seriously wounded for evacuation and their actual evacuation would be under his supervision. We would not send them to so-called collecting or casualty stations for sorting or triage. This would be done in the field, eliminating one very costly, in medical personnel, and time-consuming step in the process of getting the wounded to points of definitive treatment.

Of course, we are making the fullest possible use of first aid personnel, the men and women who have been and are being trained by the Red Cross, as a supplementary organization to the medical field service. In case of attack on Toledo, every drugstore would automatically become a first aid station, manned by first aiders. An atomic attack would produce thousands of light, or walking, casualties. Our medical field units would be too busy with the seriously injured to take care of them, so they would go to the nearest drugstore, where they would be treated within the limitations of first aid. Every drugstore has at least a limited amount of first aid supplies on hand. In addition, some 50 industrial plant dispensaries, organized under Dr. Charles F. Shook, of the Owens-Illinois Glass Company, would also become first aid stations. These dispensaries already carry a considerable amount of supplies in excess of their normal requirements. Heading the first aid service, under Dr. Snyder, is Victor L. Brenneman of the American Red Cross.

Of course, we realize that in an atomic attack on our city, nearly all our regular hospitals would probably be in the disaster area and could not be used. Accordingly, through the Lucas County Civil Defense Organization, we are establishing a system of 40 emergency or improvised hospitals, on the outside perimeter of the city. We have received or ordered medical supplies valued at approximately $38,000 on a matching fund basis. This amount is not impressive, but it would carry us through the first few hours of the disaster, until we could get more. Aside from the federal depot in Zanesville, Ohio is establishing a number of its own supply bases. One of these will be near Toledo. Within a few hours of the attack, we would be receiving medical supplies from our state depot. Toledo and Lucas County have separate civil defense organizations. To equalize responsibility for the medical services, James W. Ault, county civil defense director, has been delegated the responsibility for the organization of our emergency hospitals, with Dr. Henry A. Burstein as chief of the medical staff and Paul W. Kempe, superintendent of Riverside Hospital, as chief of administration.

TEST OF OPERATIONS

Last July 1 and 3 we conducted a large-scale demonstration called "Target: Toledo" simulating an atomic attack. Through voluntary contributions of materials and labor, we erected three full-sized frame houses in the football stadium of the University of Toledo, flanked by a simulated school house and drugstore, with a large army tent to represent an industrial dispensary. As the demonstration opened, the area represented a typical city neighborhood, with men and women going back and forth and children shooting marbles and playing ball and other games. As Warning Yellow was received, the staff went to the simulated control center. Using a public address system to simulate radio broadcast, Fire Chief Arnold F. Papenhagen explained the meaning of this advance warning. Then came Warning Red, with the wailing sound of the siren sending persons for cover. Soon the ominous drone of an Air Force bomber, coming a thousand miles for this purpose, could be heard. At 9:03 p. m. it was over the area, and an Army team exploded a planted bomb outside the stadium. Almost instantly, the roofs of the three houses ignited, with flames shooting toward the sky. The ghostly flames revealed a dramatic scene. Then there was no playing, no laughter, and but little movement. Scattered all about the area were casualties. In the drugstore, counters and cabinets were pushed aside, and a first aid station came into being. Already, wardens were assisting the lightly injured to the station, where first aiders were in action.

As the All Clear was sounded, radiological teams started monitoring the area, and, as it was declared safe, a fire engine manned by auxiliaries entered. Using water from two 3,000 gallon nylon tanks, it started to put out the fire. It was closely followed by rescue teams, which began the grim task of extricating persons from under debris. Then came the medical field teams, headed by their physicians. At this point, Dr. Hotz took over the narration, explaining each step in the triage procedure. Persons who had been made up for this purpose to represent different types of injuries were examined by the unit physicians, and triage was administered under their direction. They were evacuted on homemade litters to the school house, which now had become an emergency hospital. Powerful spotlights followed the procedure. The entire operation was orderly, notwithstanding that the several hundred participants had but one brief rehearsal. The demonstration closed with a brief address by Dr. Edward J. McCormick, president of the American Medical Association, emphasizing the importance of the medical phase of civil defense. Civil Defense officials came from all parts of the country to witness this demonstration, and each evening several thousand Toledoans were in the stadium. To us, it was a proof, as good as we could have without actual disaster operations, that our plans and organizational structure are practical and operationally sound.

COMMENT

I am enthusiastic about our medical plan and organization because I am convinced that under disaster conditions they would save the most human life possible within the limitations of our resources. Much study, deliberation, and painstaking care have gone into the preparation of the plans, in the outline of the procedure for each of the numerous personnel classifications, but the results are gratifying! We have an outstanding organization. It is being accomplished at a very small financial cost. We are doing it within our available resources, and with city-wide participation. I know that, if the tragedy of war should overtake us and we were attacked, our wounded would have the best medical care that we could provide. There would be no lost motion in the care of the injured, no haphazard methods in medical rescue operations. Every man and every woman in the service, from the medical director to the unit physician and litter-bearer on the field unit, would be a member of the team. They would function not as individuals but as units for maximum accomplishment.

The development of our plans and organization has been quite rapid, but every step has been taken with deliberate care, after intelligent reasoning. As a husband and father, it gives me great satisfaction to know that if I, or members of my family, or my relatives and friends and neighbors should suffer serious injuries, there would be physicians, dentists, nurses, and pharmacists to care for us, and even clergymen of our faith to comfort us; and, as the director of civil defense, I look into the future not only with a sense of realism but with the assurance that under disaster conditions we would save the maximum number of lives possible within the limitation of our resources. It is this which I, as director of civil defense, must expect from the medical profession. I could not expect more, and I could not accept less. Whatever we have accomplished or are accomplishing stems from the dynamic, intelligent, and conscientious volunteer leadership of professional and lay persons. Their cooperation has been of the highest type in both spirit and effectiveness.

Our objective has been and always will be the saving of human life, whether we are members of the medical profession or mere laymen. We do not need the oath of Hippocrates to accept this inviolable principle. It is a part of our heritage and of our training from the cradle to the grave. We are humanitarians, all. We also are a practical people. We know not only the moral and spiritual value but also the practical worth of human life. We know that as long as man lives and the earth gives up its treasures, he can create material things without limitation within our natural laws. But all the material things of the entire world could not create a single life!

We know, also, that, as long as the threat of atomic warfare shall hang over this foolish world, we must be ready, trained, and organized to care for the injured. In this, we have no alternative. It is our obligation and our responsibility. We must do all we can to save property, but the saving of human life comes first. This is the premise of the atomic age!

805 Adams St.

Penetrating Wounds of the Heart.—Penetrating wounds of the heart may produce either cardiac tamponade or, when the pericardium and pleura are severely enough lacerated, intrapleural hemorrhage. Most of the latter group do not survive long enough to permit institution of treatment. Those with cardiac tamponade restrict hemorrhage but may die of cardiac compression if the tamponade is not relieved. The diagnosis should be suspected in any one who has had a penetrating injury in the region of the pericardium. Shock, neck vein distention, muffled or absent heart sounds, diminished or absent cardiac pulsations, as seen on fluoroscopy, and enlarged cardiac silhouette by x-ray confirm the diagnosis. Immediate pericardial aspiration should be performed both for relief of tamponade and as further confirmation of the diagnosis. A retrosternal approach entering the skin just to the left of the xiphoid process is the method employed for this purpose. If there is an unsatisfactory response of the blood pressure following pericardial aspiration, blood should be administered intra-arterially to maintain satisfactory coronary circulation. Ice pick injuries may be sufficiently small that spontaneous closure will occur and in such cases no treatment other than the initial aspiration is indicated. However, these cases should be carefully observed and if further tamponade occurs, operative intervention is indicated. Injuries with slip knives, scissors, and larger instruments should be operated upon immediately. . . . The survival of patients [with heart wounds] has increased dramatically within the last ten years. The general use of blood replacement and antibiotics, the understanding of the physiology of acute cardiac tamponade, plus improved anesthesia, have all led to a lower mortality rate.—P. Jordan Jr., M.D., and G. E. Wilson Jr., M.D., Surgical Treatment of Vascular Trauma, *The Surgical Clinics of North America,* Aug, 1953.

HYPOKALEMIA DUE TO PERSISTENT VOMITING DURING PREGNANCY

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Vomiting occurs in approximately 50% of all pregnancies. Vomiting of pregnancy varies in degree of severity from the so-called morning sickness, or nausea, to the pernicious, or severe, type that may end fatally. Although the majority of cases of vomiting of pregnancy fall into the mild or self-limited group, there is a small percentage of cases in which constant and persistent vomiting develop and result in loss of weight, dehydration, and ketosis. There may be, in addition to the well-known syndrome of hyperemesis gravidarum, vomiting associated with other etiological factors.

During the past several years, the importance of potassium deficiency in many clinical conditions has been reported. Studies by Darrow,[1] Randall,[2] Butler,[3] and others [4] of the fluid and electrolyte losses in many clinical conditions have led to the understanding that losses of intracellular potassium frequently occur and that these losses lead to increased morbidity and mortality. It has been demonstrated [5] that losses of gastrointestinal secretions through vomiting or diarrhea result in loss of a large amount of potassium from the body and that these losses contribute significantly to the development of hypokalemia and potassium deficiency.

In the present report, we will describe eight cases of hypokalemia developing in pregnancies complicated by persistent vomiting. We will discuss the treatment of potassium deficiency in these cases.

METHODS

Patients admitted to the obstetric service of the Cook County Hospital because of pregnancy complicated by persistent vomiting were studied for abnormalities in serum potassium concentration. Laboratory studies routinely performed included serum sodium, chloride, potassium, and carbon dioxide comfining power and blood nonprotein nitrogen and creatinine. Blood was collected, except in emergencies, in the morning under fasting conditions. The daily fluid and electrolyte therapy were based on the laboratory determinations performed the same morning, and response to treatment was followed by daily blood chemistry studies on each patient. Sodium and potassium concentrations in serum were determined on a flame photometer, with lithium as an internal standard.[6]

CLINICAL MATERIAL

Clinical and laboratory data from the eight patients are summarized in table 1. Three cases histories are presented in detail. We consider that the normal range of serum potassium is from 4.0 to 5.6 mEq. per liter.[7] All patients in this report had a serum potassium concentration below 3.4 mEq. per liter, probably indicative of an intracellular potassium deficiency. All patients had little or no oral intake of food prior to admission. After admission to the hospital, hypokalemia occurred again after the parenteral administration of fluids without potassium, while oral feedings were withheld. Vomiting was pronounced and unremittent in all patients. Weight loss ranged from 4 to 25 lb. (1.8 to 11.3 kg.).

All the patients in this series exhibited lethargy, listlessness, apathy, and mental depression. Four patients were confused, and two were disoriented. Muscular weakness was present in all patients. Shallow respirations were evident in five patients. Two patients were jaundiced and laboratory studies indicated toxic hepatitis in both cases. In these cases, the cephalin flocculation was positive and the thymol turbidity was greater than 4 mg. per 100 cc.

Institution of therapy with potassium chloride given intravenously resulted in a striking improvement in mental attitude and muscular strength. In several cases, this appeared to be a lifesaving procedure. Although four patients were in critical condition on admission to the hospital, all responded to therapy and no deaths occurred. One patient (case 3), who had toxic hepatitis, had a premature labor at six months' gestation; a nonviable fetus resulted. All other patients continued their pregnancy to term without further complications.

Three patients had an elevated blood nonprotein nitrogen level. Urine output was scanty and highly concentrated in five patients. On institution of fluid and electrolyte therapy, the output of less concentrated urine increased, and the blood nonprotein nitrogen value returned to normal.

REPORT OF CASES

CASE 1.—A 32-year-old Negro woman, gravida 1, para 0, was admitted to the obstetric service of the Cook County Hospital on Oct. 7, 1950, because of vomiting of three weeks' duration. The patient had received prenatal care in another city. Her expected date of confinement was stated to be June 2, 1951. The patient had experienced nausea and anorexia since informed of her pregnancy four weeks before admission. During the three weeks prior to admission she had been able to retain only small amounts of liquids daily. The preceding week, she had had copious amounts of vomitus five to six times a day. There had been a 25 lb. (11.3 kg.) weight loss since the beginning of the vomiting. Physical examination on admission revealed an acutely ill, dehydrated woman

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showing evidence of marked, recent weight loss. The temperature was 100 F rectally. The pulse rate was 90 and regular. The blood pressure was 132 systolic and 82 diastolic. The uterus was enlarged to the size of a six weeks' gestation.

Laboratory studies showed a hemoglobin level of 78% (12.1 gm., Evelrn colorimeter). Reaction to a Kahn test was negative. Urine contained 4+ acetone but no albumin or sugar. Microscopic examination gave normal results. Blood chemistry studies on admission disclosed a serum potassium of 3.4 mEq. per liter, with normal concentrations of serum sodium and chloride (table 2). The patient received fluids intravenously consisting of 2 liters of 0.9% sodium chloride solution and 2 liters of 5% dextrose solution on the day of admission and the following day. On Oct. 9, 1950, the patient was very lethargic, drowsy, apathetic, and at times completely disoriented. Electrocardiographic findings on that day were suggestive of hypokalemia, and the serum potassium level was found to be 2.9 mEq. per liter (table 2). We were called to see the patient at this time. Treatment with potassium chloride given intravenously was begun immediately. A gradual rise in the serum potassium was noted. The following morning apathy and lethargy had diminished. Administration of potassium intravenously was continued (table 2), and dramatic improvement on the second day of therapy coincided with an abrupt rise in serum potassium concentration. The patient continued to improve, and intravenous administration of fluids was discontinued on Oct. 13, 1950. The patient was discharged from the hospital to the prenatal clinic on Oct. 20, 1950, and continued her pregnancy to term without further complications.

Table 1.—*Clinical and Hematological Data in Eight Cases of Vomiting During Pregnancy*

				Blood Chemistry					
Case	Age	Duration of Emesis Prior to Admission	Weight Loss, Lb.	K, mEq./Liter*	Na, mEq./Liter*	Cl, mEq./Liter*	CO_2, Cc./100 Cc.*	Nonprotein Nitrogen, Mg./100 Cc.*	Creatinine, Mg./100 Cc.*
1	32	4 weeks; intractable 3 weeks	25	2.9	138	103	40	42	...
2	35	5 weeks	10	2.8	126	103	61	42	1.0
3	17	2 months; intractable 5 days	15	2.9	130	85	59	62	2.2
4	26	5 weeks	21	3.1	139	87	56	42	...
5	30	2 months	8	3.0	142	86	77	72	2.0
6	21	10 weeks; intractable 4 weeks	10	2.9	133	89	74	40	1.0
7	19	4 weeks	4	3.3	136	82	82	69	1.8
8	23	6 weeks	10	3.4	130	85	70	34	1.0

* Normal range: potassium, 4.0-5.6 mEq. per liter; sodium, 138-148 mEq. per liter; chloride, 100-110 mEq. per liter; carbon dioxide combining power, 50-70 cc. per 100 cc.; nonprotein nitrogen, 20-40 mg. per 100 cc.; and creatinine, 1-2 mg. per 100 cc.

Case 2.—A 35-year-old Negro woman, gravida 2, para 1, was admitted to the hospital on Nov. 24, 1950, because of intractable vomiting of two weeks' duration. The patient had been having morning nausea and occasional vomiting since the fifth week of pregnancy. During the five weeks preceding admission, the vomiting had become more frequent, and, for the past two weeks, she had been unable to retain any solid food and only a slight amount of water daily. There was a 10 lb. (4.5 kg.) weight loss during the week and a half preceding admission. Physical examination on admission revealed an acutely ill, dehydrated patient with evidence of recent weight loss. Temperature and pulse were normal. The blood pressure was 130 systolic and 80 diastolic. The patient was very weak and showed no interest in her surroundings. Respirations were shallow and infrequent. The respiratory rate was 14 to 16 per minute. The uterus was the size of a four month gestation.

Laboratory studies showed hemoglobin level 79% (12.3 gm., Evelrn colorimeter) and leukocyte count 6,400 per cubic millimeter of which 87% were polymorphonuclear. Reaction to the Kahn test was negative. The urine contained no albumin or sugar, but the test for acetone was strongly positive. Microscopic examination gave normal results. Blood chemistry studies made on Nov. 28, 1950, showed a serum potassium concentration of 2.8 mEq. per liter (indicative of severe hypokalemia). Administration of potassium chloride intravenously in sodium chloride and dextrose solutions was started immediately. Twenty-four hours after initiation of this treatment, the serum potassium concentration was 3.3 mEq. per liter (table 3), and marked clinical improvement had occurred. On the following five days, potassium chloride was administered intravenously (table 3), and a gradual rise in serum potassium concentration resulted. On the sixth hospital day, the patient was able to retain oral feedings and intravenous administration of fluids was discontinued. The patient was discharged to the prenatal clinic on Dec. 13, 1950, and continued her pregnancy to term without further complications.

Case 3.—A 17-year-old white girl, gravida 1, was admitted to the obstetric service of the Cook County Hospital on Aug. 19, 1950, because of lower abdominal cramps and vaginal bleeding of five hours' duration. Menstruation had not occurred since February, 1950. Prenatal care had not been received. Vomiting had occurred four to five times a day during the past two months and had become intractable during the preceding five days with inability to retain any solid or liquid food. There was a 15 lb. (6.8 kg.) weight loss during the preceding five weeks. Physical examination on admission revealed a dehydrated, very ill, icteric patient with evidence of recent weight loss. Temperature and respirations were normal. The radial pulse rate was 90 per minute. Blood pressure was 135 systolic and 115 diastolic. The uterus was enlarged to the size of a six month gestation, and fetal heart tones were 130 per minute and regular. Rectal examination disclosed two-thirds effacement and 4 cm. dilatation of the cervix; the station was +2. Strong uterine contractions occurred every five minutes.

Laboratory studies showed hemoglobin level of 94% (14.6 gm., Evelrn colorimeter) and 13,600 leukocytes per cubic millimeter, 89% polymorphonuclear. Reaction to the Kahn test was negative. The urine contained 1+ albumin, 4+ acetone, 4+ urobilinogen, and no bilirubin. Microscopic examination gave normal results.

Administration of barbiturates for sedation and fluids intravenously consisting of sodium chloride and dextrose solutions was begun. The following morning, a baby boy weighing 3 lb. 6.5 oz. (1,550 gm.) was delivered. The girl's blood pressure six hours post partum was 120 systolic and 75 diastolic. The patient continued to vomit copious amounts of coffee-ground material. Blood chemistry studies at this time (table 4) disclosed a severe hypochloremia and azotemia. Liver function tests were indicative of toxic hepatitis. Sodium chloride and dextrose solutions were administered intravenously in amounts

Table 2.—*Hematochemical Data in Patient with Vomiting of Pregnancy (Case 1)*

	Date, Oct., 1950							
	7	9	10	11	12	13	15	17
Potassium, mEq./liter	3.4	2.9	3.3	4.0	4.3	4.1	4.5	4.3
Sodium, mEq./liter	145	139	138	139	142	145	142	142
CO_2 combining power, cc./100 cc.	40	61	57	55	55	60	58	52
Chloride, mEq./liter	113	103	105	105	106	109	103	102
Nonprotein nitrogen, mg./100 cc.	31	42	26	27	...	25	27	25
Creatinine, mg./100 cc.	...	...	...	...	...	...	...	...
Gm. KCl *	...	8 I.V.	12 I.V.	12 I.V.	8 I.V.	6 orally	6 orally	6 orally

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* Administration of potassium chloride followed determination of the blood chemical data made earlier each day.

calculated to correct dehydration and replace gastrointestinal losses. In spite of this treatment, however, the patient rapidly became lethargic, very weak, and disoriented. Respirations were shallow. On Aug. 23, 1950, she was comatose. We were called to see the patient at this time. Further blood chemistry studies revealed a serum potassium concentration of 2.9 mEq. per liter (indicative of marked hypokalemia). Treatment with potassium chloride intravenously (table 4) was instituted immediately, and the patient received 8 gm. of potassium chloride during the next 10 hours. Within six hours after the administration of the first 8 gm. of potassium chloride, dramatic improvement occurred. The patient was alert, oriented, and able to sit up without aid. Treatment with potassium chloride intravenously was continued for the next two days (table 4). Continued clinical improvement was rapid as the serum potassium concentration returned to normal. On Aug. 26, 1950, the patient was able to take adequate oral feedings, and intravenous administration of fluids was discontinued. Jaundice subsided, and the patient was discharged to the postnatal clinic on Sept. 2, 1950.

TABLE 3.—*Hematochemical Data in Patient with Vomiting of Pregnancy (Case 2)*

	Date, 1950							
	Nov. 28	Nov. 29	Nov. 30	Dec. 1	Dec. 2	Dec. 4	Dec. 5	Dec. 9
Potassium, mEq./liter	2.8	3.3	3.6	3.8	4.0	4.6	4.5	4.4
Sodium, mEq./liter	136	136	139	139	...	136	138	138
Chloride, mEq./liter	103	105	105	106	...	100	100	102
CO_2 combining power, cc./100 cc.	61	57	55	55	...	52	52	54
Nonprotein nitrogen, mg./100 cc.	42	36	27	...	...	...	27	24
Creatinine, mg./100 cc.	1.0	...	...	...	...	...	...	...
Gm. KCl, I.V.	8	12	10	8	8	8	...	...

TABLE 4.—*Hematochemical Data in Patient with Vomiting of Pregnancy (Case 3)*

	Date, Aug., 1950									
	20	21	23	24	25	26	27	28	29	30
Sodium, mEq./liter	...	...	133	130	133	136	135	...	138	...
Chloride, mEq./liter	85	...	104	109	102	104	100	...	100	...
CO_2 combining power, vol. %	58	...	...	42	44	48	48	...	50	...
Potassium, mEq./liter	...	...	2.9	3.3	3.8	3.9	4.3	4.2	4.2	...
Nonprotein nitrogen, mg./100 cc.	62	...	40	...	32	...	...	27	...	...
Creatinine, mg./100 cc.	2.2	...	1.0	...	...	...	...	...	...	...
Cephalin flocculation	...	3+	...	1+	...	...	1+	...	...	...
Thymol turbidity	...	3.8	...	...	4.6	...	...	...	...	...
Gamma globulin	...	1.05	...	...	9.99	...	...	...	...	...
Icteric index	41	...	44	...	...	...	19	12	...	...
Gm. KCl	...	...	8 I.V.	8 I.V.	8 I.V.	6 orally	...	6 orally	6 orally	...

COMMENT

Pathogenesis.—One of the major factors leading to development of potassium deficiency is the limitation of potassium intake. The average normal intake of potassium is from 3 to 4 gm., or 75 to 100 mEq., per day.[8] There is no storage of potassium in the normal adult; instead, the excess intake is excreted in the urine. In malnutrition or dehydration, cellular breakdown occurs with resultant release of potassium from the cell. This potassium is excreted in the urine. An inadequate intake of potassium, malnutrition, and dehydration were present in the majority of the patients in this study.

The kidney is the principal route of potassium excretion. The usual urinary excretion of potassium is 2 to 3 gm. per day. Although the daily total excretion of potassium may be decreased, renal losses continue even during periods of marked potassium deficiency. The renal mechanisms for potassium excretion are influenced by many extrarenal factors, including disturbances in acid-base balance, infusions of parenteral solutions, and body stress. All of these factors were present in the patients in this study. Prolonged parenteral use of fluids is often necessary in patients with vomiting to provide nutrition and prevent dehydration. The solutions used contain little or no potassium; therefore, patients sustained on these solutions alone receive an inadequate intake of potassium, and the resultant diuresis causes an increased renal loss of potassium.

In addition to the loss of potassium through increased renal excretion, the patients in this study had an additional source of potassium loss through vomiting. In previous studies,[9] potassium was found to be present in gastric juice in concentrations ranging from 6.5 to 27 mEq. per liter. Others [2] have reported concentrations of 40 mEq. per liter. Normally the potassium content of these secretions is reabsorbed; however, patients with a daily loss of 2 to 3 liters of gastrointestinal fluids may lose as much as 75 to 100 mEq. of potassium per day (equivalent to the potassium content of 5.5 to 8 gm. of potassium chloride). This loss of potassium contributes significantly to the development of potassium deficit.

Clinical Manifestations.—The commonest clinical picture encountered in potassium deficiency is a symptom complex consisting of gradually increasing weakness, loss of energy, anorexia, and mental depression.[10] Shallow, infrequent respirations are frequently noted, and death may result from respiratory paralysis. Abdominal distention, caused by paralytic ileus, is often observed.

Hypochloremia alkalosis that does not respond to hydration and sodium chloride therapy is indicative of potassium deficiency and readily responds to treatment with potassium chloride solutions administered intravenously.[9] Alterations in cardiac function are common in severe potassium deficiency. Cardiac arrhythmias, the development of systolic murmurs, and cardiac dilatation are observed clinically. The electrocardiographic changes with hypokalemia have received considerable attention.[10a]

TREATMENT OF POTASSIUM DEFICIENCY

The following routine is suggested as a basis for treatment of hypokalemia. Daily blood chemistry studies, including serum sodium, potassium, chloride, and carbon dioxide combining power, are necessary for accurate treatment of fluid and electrolyte abnormalities. Potassium may be added to all types of fluids given intravenously and subcutaneously. Concentrations should not exceed 3 gm. of potassium chloride per liter of fluid for parenteral use and should be administered at rates not exceeding 8 to 12 cc. per minute. More concentrated solutions or faster rates of administration may lead to high serum levels of potassium that are toxic to the heart and that result in heart block and cardiac arrest. We have not encountered this complication. Potassium may be administered in the above concentrations as long as adequate urine output is present (at least 800 cc. every 24 hours) and hypokalemia exists.

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Three grams of potassium chloride are added to each liter of fluid for parenteral use so that the patient will receive 9 to 15 gm. of potassium chloride (121 to 202 mEq. of potassium) a day. This treatment is continued until the serum potassium level has been normal for 24 hours; after that 6 gm. of potassium chloride are administered daily. Parenteral administration of potassium is continued until oral feedings are tolerated. Since most foods are a good source of potassium, potassium salt therapy is no longer needed after the patient can be fed an adequate diet.

SUMMARY AND CONCLUSIONS

Eight patients with vomiting during pregnancy were found to have hypokalemia on admission to the hospital. The loss of potassium through vomiting, limitation of potassium intake, and increased renal excretion of potassium were the major pathogenic factors in the development of hypokalemia in these cases. The intravenous administration of potassium chloride solutions in the treatment of hypokalemia is discussed. Treatment of potassium deficiency is an important addition to the care of pregnant patients and is often essential for their survival.

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AN OBSESSIVE-COMPULSIVE REACTION TREATED WITH PREFRONTAL PROCAINE INJECTION

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Manuel M. Pearson, M.D., Francis C. Grant, M.D.
and
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Injection of various substances into the frontal lobe of the brain has been one of the various methods utilized to treat intractable pain and certain psychiatric disorders since Moniz's original report on lobotomy in 1936.[1] He injected small amounts of alcohol in some of his early cases. Lindsay,[2] in 1950, described the injection of small amounts of procaine into the forebrain of three psychotic patients. Putnam [3] and Van Wagenen [4] have used procaine injections as a preliminary and temporary procedure in an effort to estimate in advance the possible effect of a surgical prefrontal lobotomy. Two of us (F. E. N. and F. C. G.)[5] have used multiple injections of much larger amounts of procaine for the relief of intractable pains from advanced carcinoma. This idea followed John Adams' [6] demonstration in San Francisco in 1950 that long-term changes in psychotic behavior resulted from massive frontal lobe procaine injections. More recently it has come to our attention that Bucaille,[7] in France, and Mandl,[8] in Germany, have also utilized such injections for pain since 1950.

In February, 1953, treatment utilizing Nulsen's procedure was initiated at the Pennsylvania Hospital Department for Mental and Nervous Diseases with certain selected psychiatric patients. These patients were those relatively inaccessible and lacking in response to psychotherapy. It was hoped that there would be increased accessibility and that psychotherapy could then be utilized so that the recovery process initiated by the temporary lobotomy could be enhanced and prolonged. Ten patients have been so treated. A severe obsessive-compulsive patient who was completely incapacitated showed a most abrupt and dramatic change that is reported here.

REPORT OF A CASE

A 52-year-old man was brought to the hospital by his wife on Feb. 24, 1953, because of a severe exacerbation of obsessive-compulsive reaction that had its first onset at age 19. For two months he had been obsessed with the fear that recipients of his bills would be harmed by some contamination he had gotten on them. For the month prior to admission he had made increasing demands on his wife for reassurance that he had not struck someone with his car or that he had not injured somebody by touching him. In the several days before hospitalization there was near delusional uncertainty. He became so indecisive and preoccupied that he was unable to dress or eat without physical aid and constant reassurance by his wife.

The patient was the youngest of seven siblings born into an upper middle class family. He did very well in school and was valedictorian of his high school class. He participated in such sports as baseball, tennis, and swimming. He entered a university when he was 18 years old but left in the middle of his sophomore year because after he had jumped over a tennis

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From the Pennsylvania Hospital, Department for Mental and Nervous Diseases, and the Hall Mercer Hospital, Pennsylvania Hospital Division.

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net he felt he had injured himself inside. Subsequently, the patient had an appendectomy "for his nerves." At the age of 21 he developed obsessive thoughts about dirt and glass and was hospitalized in a private sanatorium for several months. From the age of 22 to 36 he worked in the family business but was too incapacitated most of the time to make any real contribution. He had few outside interests and stayed very close to his rigid, domineering, over-protective mother. His father died when the patient was 27.

After the family business failed (when he was 36) he stayed at home with his mother. At 40 years of age he met his future wife, who was herself convalescing from a "nervous breakdown." His mother died the following year, but his wife had already assumed the mother's protective and domineering role. From age 41 to 47 he worked in a war plant as an expeditor, but he lost his job in the first postwar lay-offs. Since then he has lived on the return from his investments.

In August, 1951, he was admitted to a psychiatric hospital because of his obsessive fears and showed improvement after receiving 10 electroshock treatments. He was readmitted there in June, 1952, after a relapse, and was again treated with electroshock with 14 convulsions. He was discharged moderately improved, continued in group psychotherapy, but relapsed within four months.

On admission to Pennsylvania Hospital, the physical and neurological examinations were within normal limits, except for evidence of weight loss. Blood and urine examinations were normal. Mental examination showed the patient to be extremely slow and indecisive in his movements. He would make many false starts before accomplishing simple acts. He had some peculiar mannerisms with his mouth and tongue. Speech and thought were very slow, and no spontaneous talk was offered. He seemed very tense. His mood was one of mild depression. He expressed concern over dirt and was careful to avoid touching objects touched by other patients. He was well oriented in all spheres, memory was intact, and retention good, but concentration was very poor. Simple calculations such as serial sevens were accomplished inaccurately and very slowly, with much indecision. Symbolization was good. Insight was absent. An electroencephalogram was reported as "low voltage fast frequencies and poorly developed rhythms dominated the tracing with an occasional scattered sharp wave being noted in both hemispheres."

The patient was treated with psychotherapy for the first month, but his condition became worse. He became more withdrawn and stayed in his room because of phobias, which took the form of delusional ideas of "getting something on" the male nurses that might harm them or impregnating one of the female nurses. He lost 13 lb. (5.9 kg.) during the month.

On March 24, 1953, bilateral frontal trephinations were done without incident or change in the patient. Two days later, with the patient under local anesthesia, a total of 45 cc. of 1% procaine was injected into the white matter of the frontal lobes. In 5 cc. amounts, 20 cc. was injected into the right frontal and 25 cc. into the left frontal lobe. The injections were made in the inferior medial quadrant of the usual plane for frontal lobotomy. During the injection the patient became, at one time, resistive, his pupils dilated and his speech was jerky; at another point he became pale and his respirations were shallow. At the conclusion of the injection the patient was confused. Within 24 hours the confusion had begun to clear markedly and the patient was found to be clinically more spontaneous in speech and activity. Within 48 hours marked changes were noted. He spoke freely and spontaneously of his plans for the summer, he participated in activities on the hospital grounds, ate and slept well, and showed very little evidence of hesitancy and indecision. When questioned he stated that he had fears, but he showed no concern about them. His score on a modified Malamid rating scale, which had hit a high of 52 just prior to injection, dropped abruptly to 10.

On April 8, 10 cc. of procaine was injected through the original trephine openings into each frontal lobe because his indecision had been noted to have increased slightly the day before. He withstood the procedure well and showed no marked autonomic reactions. Thereafter the improvement was maintained. He was much more expressive and active and even verbalized angry feelings directly. He moved about the hospital, and participated actively and spontaneously in group activities. He seemed friendly and relaxed. He gained 10 lb. (4.5 kg.) in weight. Serial sevens, which had taken 15 minutes to complete prior to treatment, were accomplished accurately in 20 seconds. Selected psychological tests that had taken seven and one-half hours before treatment required only 45 minutes. An electroencephalogram made 17 days after the second injection showed occasional slow and sharp waves throughout both hemispheres, with rhythms slightly better developed than in the electroencephalogram made before treatment.

The patient pressed for discharge stating that he felt well and that there was no need for his continued hospitalization. He denied that he had been ill, and dynamic psychotherapeutic efforts were not successful. He was discharged on April 24, 1953, as much improved, to be followed as an outpatient.

He returned to his home, where he has been active in gardening and some sports such as golf. He has again taken over the management of his affairs but has shown no inclination to obtain employment, which is not necessary for him. His wife has stated that he is better than at any time she has known him. Indeed, his lack of obsessiveness has been somewhat a matter of concern for her because of her own meticulousness. He has been socially more active and interested than he has been for some years. He has continued to gain weight. In the outpatient conferences it has not been possible to work with him on a dynamic unconscious level. He treats the therapist as somebody he is passively willing to come and report to about his garden, his trip through New England, and the like. He has continued free of incapacitation from his phobia for six months.

COMMENT

This patient showed a marked improvement of his severe obsessive-compulsive reaction after the injection of 45 cc. of 1% procaine into the white matter of the frontal lobes of his brain. With the injection were attendant autonomic nervous system reactions. Clinically, too, a marked confusion was produced, but the confusion started to clear within 24 hours. There were none of the other regressive signs found in many patients subjected to surgical lobotomy; he neither wet nor soiled. He needed no period of habit training. After the confusion had cleared he was free of psychotic symptoms and back to his usual personality functioning level. Although it had been hoped that dynamic insightful psychotherapy might be utilized, the continuation of his utilization of the mechanisms of denial made only supportive psychotherapy possible in the three months since his discharge from the hospital.

Of the other nine patients treated (all schizophrenics) the response to injection has varied from "recovered" to "no change." The complications from the treatment have been few; two patients had convulsions in the immediate post-treatment period but none thereafter, three had hyperpyrexia immediately post-treatment, and one soiled and wet for a week. Several patients have remarked that they preferred this type of procedure to electroshock. In all the confusion was brief and comparable to, or less than, that after brief electroconvulsive therapy.

SUMMARY

A severely incapacitated obsessive-compulsive patient was abruptly and dramatically improved by the injection of 45 cc. of 1% procaine into the white matter of the frontal lobes of the cerebrum through cranial trephines. A total of 10 patients so treated demonstrated that this procedure is safe, with few complications and with less resultant regressive phenomena than after surgical lobotomy

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CLINICAL NOTES

INSTRUMENT FOR ENDOTRACHEAL ANESTHESIA DURING OROPHARYNGEAL SURGERY

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It has always been important to maintain an adequate airway during any general anesthetic, especially for any type of oral surgery performed under general anesthesia. With the increasing use of intravenous administration of anesthetics, it is even more vital. Attempts have been made in the past to perform operations such as tonsillectomy on adults by using endotracheal intubation, but the surgeon usually found that the tube obstructed the operating field or tended to slip out of the glottis. It is the purpose of this report to describe a new endotracheal tongue blade,* which is adaptable to either the Crowe-Davis or the McIvor mouth gag and which affords greater safety and better exposure.

DESCRIPTION

The stainless steel tongue blade is pictured in figure 1 and is constructed in three sizes to pass a no. 24 French, 28 French, and a 38 French endotracheal tube. These can be used for a small child up to an adult. The carrier tube is built into the tongue depressor in such a way that the lingual half pushes into the soft tissue of the tongue and only the oral half protrudes into the mouth. In this way there is a minimum of obstruction of the operating field.

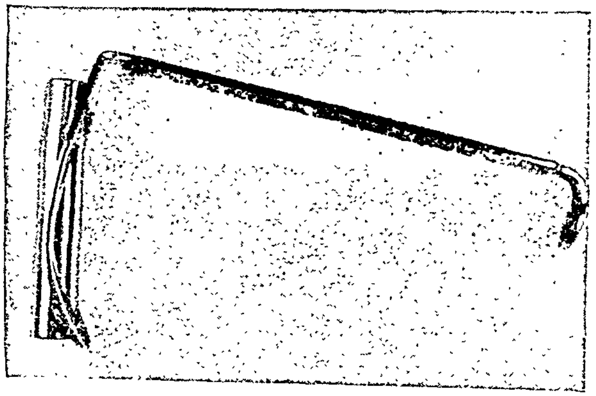

Fig. 1.—Profile of endotracheal tongue blade with carrier tube inserted in tongue depressor.

The technique used is outlined briefly. The patient is anesthetized with whatever agent desired (cyclopropane, thiopental [Pentothal] sodium rectally or intravenously, or succinylcholine [Anectine] chloride) and an endotracheal tube inserted. Thereafter, the mouth gag, (either Crowe-Davis or McIvor) with the proper-sized blade attached, is placed in the mouth while the endotracheal tube is threaded through the tongue blade as seen in figure 2. When the gag is opened, an excellent exposure is achieved with the endotracheal tube held away from the operative field and not likely to slip out of the glottis. With the blade and endotracheal tube in place, the McIvor gag rests on a Mayo stand, which holds the surgical instruments directly in front of the surgeon. The patient should be in the Rose position with the surgeon sitting at the head.

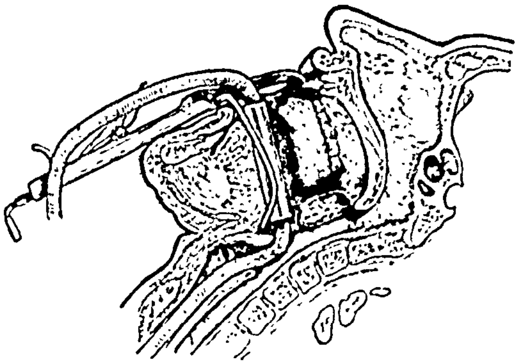

Fig. 2.—The mouth gag with the endotracheal tongue blade is introduced into the mouth while it is threaded over the endotracheal tube. Thereafter, the handle of the gag is elevated so as to elevate the posterior one-third of the tongue and the epiglottis.

After the operation is completed, the tracheobronchial tree is suctioned with the catheter, and the patient is awakened by removal of the endotracheal tube. These conditions represent the anesthesiologist's "ideal."

COMMENT

The technique described by Johnson [1] has the advantage of permitting a painless operation with a pleasant induction of general anesthesia. It has not been widely accepted, however, because the endotracheal tube is not used. It is generally agreed that the Johnson technique is a dangerous one without intubation, because of possible aspiration, anoxia, and hypoxia.[2] Anesthesia is safely maintained only by an endotracheal tube. This instrument provides a satisfactory solution to the problem.

SUMMARY

The endotracheal tongue blade described has been used routinely in children and adults during the past six months. The results have been uniformly satisfactory. The advantages of the instrument described over other techniques are: (1) complete protection against laryngospasm, (2) complete protection against tracheobronchial aspiration, (3) complete protection against hypoxia, (4) pleasanter induction for general anesthesia, (5) quicker recovery of consciousness after general anesthesia, and (6) an unobstructed surgical field for all types of oropharyngeal surgery.

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* The instrument described is manufactured by the Broton-Hiltra Company, Box 11324, Briggs Station, Los Angeles 48.

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EVALUATION OF PSEUDOALBUMINURIA FOLLOWING CHOLECYSTOGRAPHY IN SEVENTY-SIX CASES

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Since 1942 iodoalphionic acid (Priodax) has been available in the United States for cholecystography. This iodine-containing preparation with the chemical name beta-(4-hydroxy-3,5-diiodophenyl)-alpha-phenylpropionic acid, is similar to the German drug Biliselectan synthesized by Dorhn and Diedrich in 1940.[1] Iodoalphionic acid contains 51.38% iodine and is usually taken orally in a dose of 3 gm. It is contraindicated in cases of acute nephritis and uremia and in acute disorders of the gastrointestinal tract.

During the past year a new cholecystographic medium called iodopanoic acid (Telepaque) [2] has been under investigation. It has proved to be of low toxicity, is effective in small doses, produces satisfactory visualization of the gallbladder, and often demonstrates the common bile duct. This preparation contains 66.68% iodine and is a brand of beta-(3-amino-2,4,6-triiodophenyl)-alpha-ethylpropionic acid. It is generally agreed that both iodoalphionic acid and iodopanoic acid are better tolerated and have definite advantages over tetraiodophenolphthalein.

Unlike tetraiodophenolphthalein, which is excreted by the colon, iodoalphionic acid and iodopanoic acid are mainly eliminated by the kidneys. Modell [3] has reported a transient albuminuria, lasting from one to seven days, in a majority of cats given large single oral doses of iodoalphionic acid. Howard [4] demonstrated that the preparation had no injurious effect on the pancreas. Both iodoalphionic acid and iodopanoic acid produce no evidence of renal or liver damage in experimental animals when used in the small amounts necessary for cholecystography. Seedorf [5] and co-workers have reported that a false positive reaction for albumin will occur in the analysis of the urine of a significant number of patients receiving the standard dose of 3 gm. of iodoalphionic acid.

In this study 76 patients were subjected to visualizations of the gallbladder with the use of a radiopaque dye, either iodoalphionic acid or iodopanoic acid. A urinalysis was made before and after cholecystography. Of the total number of tests, 40, or 52.6%, were negative for albumin on the day of cholecystography. Roberts' reagent (5 parts saturated solution of magnesium sulfate plus one part nitric acid) was used in all of these tests. There were 36 positive reactions, varying from a trace to 4 +. Fifteen patients had a 4 + reaction, 5 had a 2 + reaction and 16 showed a trace. In a recheck three days later reactions to all of these tests were negative. There was no significant difference whether iodoalphionic acid or iodopanoic acid was used in the production of the positive reaction for albumin using Roberts' reagent. Follow-up examinations in these cases failed to reveal any evidence of kidney disease.

SUMMARY AND CONCLUSIONS

The fact that it is the actual presence of iodoalphionic acid (Priodax) in the urine that causes pseudoalbuminuria has been proved by laboratory tests. Use of the heat and acid test for albumin detection in the urine will avoid this false positive reaction. Laboratories using Exton's reagent (sodium sulfate plus sulfasalicylic acid), the Heller ring test (nitric acid), or Roberts' reagent (5 parts saturated solution of magnesium sulfate plus one part nitric acid) for albuminuria detection should routinely check all positive reactions with the heat and acid test. Detectable amounts of iodoalphionic acid and iodopanoic acid (Telepaque) are present in the urine not only the morning after the ingestion of the drug but the following day and occasionally even on the third day. It is concluded that albuminuria occurring after administration of the usual dosage of iodoalphionic acid or iodopanoic acid does not indicate renal irritation due to the drug and should not be considered to be due to kidney disease.

1513 Line Ave. (Dr. Holoubek).

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ACUTE ULCERATIVE COLITIS SUCCESSFULLY TREATED WITH CHLORAMPHENICOL

REPORT OF CASE DUE TO SALMONELLA PULLORUM

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The two Salmonella, gallinarum and its variant pullorum, responsible for white diarrhea of chickens, until recently have been considered nonpathogenic for man. An acute gastroenteritis, violent in onset and course, but usually self-limiting in a period of 48 to 72 hours, has been attributed to the S. pullorum.[1] From the first report of this pathogen in 1941, by Edwards and Bruner,[2] until 1950, S. pullorum had been isolated from human patients 39 times.[3] In the case reported, the infection did not follow the usual self-limiting course, and special therapeutic measures were necessary to arrest the course of the disease.

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REPORT OF A CASE

This patient was a 42-year-old white woman who was admitted to the Olney Sanitarium with the chief complaint of persistent, bloody diarrhea. Her illness had first started about five weeks prior to admission, with a severe shaking chill followed by a rise of temperature to 102 F. Other symptoms, including nausea, vomiting, cramping, abdominal pain, and marked generalized weakness, appeared in rapid succession. She was seen by her family physician and treated with aureomycin without any appreciable benefit. A barium enema, approximately one week after the onset of symptoms, showed a picture characteristic of an acute colitis. Other therapeutic measures were tried without success; in fact, the diarrhea became more pronounced, with 8 to 10 watery, spurting movements per day. During the last week prior to hospitalization, the stools became frankly bloody and she had daily elevations of temperature up to 102 F.

On reviewing the history with the patient, it was found that prior to her illness there had been an epidemic of sickness in her flock of chickens. They had seemed droopy, and several of them had diarrhea. She was quite proud of the fact that she had nursed several of the sickest chickens back to health. The fact that no one else became ill would indicate that the transmission was by direct contact rather than from ingestion of infected eggs.

The findings on routine physical examination were limited entirely to those of the abdomen and gastrointestinal tract, except for the evident weight loss and generalized marasmus. The abdomen was distended, and there was slight generalized tenderness, but no organs or masses were palpable. Anoscopic examination showed numerous pinpoint ulcerations, with active bleeding from many of these areas.

The laboratory examinations were as follows: erythrocytes, 5,050,000; hemoglobin, 109%; and leukocytes, 16,950, with 87% polymorphonuclear cells, 12% lymphocytes, and 1% eosinophils. The urinalysis was normal. Cultures of the stool showed S. pullorum as the predominating organism. There was agglutination with pullorum antigen K and the patient's serum. Antibiotic sensitivity tests showed small inhibitory zones around the disks of highest concentration of chloramphenicol (Chloromycetin) and streptomycin. Blood cultures and urine cultures were negative repeatedly.

This patient had a long period of hospitalization, which was made necessary by the resistant diarrhea and fever. During the first week, she was treated with succinylsulfathiozole (Sulfasuxidine) and chlortetracycline (aureomycin), with no change in the character or frequency of stools. There were daily spikes of temperature to 103.5 F to 104 F, with a rapid pulse and marked systemic toxicity. During the second week, she was started on chloramphenicol, 1 gm. every 24 hours; and, during this period the temperature spikes were less high and the stools diminished from 8 to 10 per day to 3 to 4 per day, but there was still gross blood present in almost every stool. The dose of chloramphenicol was then increased to 2 gm. per day, and from then until her discharge there was gradual improvement in all symptoms; however, a stool on the 20th day of hospitalization still grew out a S. pullorum on culture. A stool culture one week later failed to grow this organism.

The patient's recovery was uneventful, and there was no recurrence of symptoms. Stool cultures and serum agglutination tests one month after discharge were negative for S. pullorum.

COMMENT

S. pullorum has been reported as the etiological agent in individual cases and epidemics of an acute dysentery. In each instance, where it was possible to trace the route of transmission, infected raw or improperly cooked eggs played a role.[4] In the case presented here, transmission in all probability came from direct contact with the infected bird. This patient's flock was studied after the nature of her disease was determined, and 3 of 139 birds gave a positive agglutination for S. pullorum. Twenty-four birds had previously been culled from the flock because of diarrhea.

This case was unusual primarily because of the severity of the infection. In all previously reported cases the infection was self-limiting after three or four days, whereas this patient's disease progressed to an ulcerative phase. Sensitivity tests showed that this organism was resistant to penicillin, aureomycin, and the sulfa drugs and only sensitive to the highest concentrations of chloramphenicol and streptomycin. Prolonged therapy with chloramphenicol eventually brought about clinical and bacteriological remission.

106 N. Silver St.

4. Crowe, M.: Localized Outbreak of Salmonella Food Poisoning Apparently Transmitted by Hen's Egg, J. Hyg. 44:342-345 (May) 1946. Gernez-Rieux.[4] Watt, J.: Outbreak of Salmonella Infection in Man from Infected Chicken Eggs, Pub. Health Rep. 60:835-839 (July 20) 1945.

COUNCIL ON PHARMACY AND CHEMISTRY

REPORT TO THE COUNCIL

The Council has authorized publication of the following report.

R. T. STORMONT, M.D., *Secretary.*

CHANGES IN THE CONSISTENCIES OF COMMERCIAL CONTRACEPTIVES

Clarence J. Gamble, M.D., Milton, Mass.

MEASUREMENT OF CONSISTENCY

Mechanical obstruction to the progress of sperms, provided by contraceptive jellies and creams, is believed to be an important element in the protection from pregnancy that they provide. To give efficient obstruction, clinicians believe that the material should be sufficiently fluid to spread throughout the vagina and establish a barrier over the os uteri. It should not, however, be so liquid as to leak out of the cavity or to be too readily displaced from the os by coital or postcoital movements.

For comparisons between the consistencies of contraceptive materials, measurements have been made of their viscosities by determining the rate at which a known pressure will force them through a tube.[1] Because of their semisolid nature the results found are not constant with different diameters and pressures as they would be with liquids. The order of apparent viscosities of various materials in which these are nearly equal, therefore, may change somewhat as diameters or pressures are changed. In consequence, such measurements of semisolid materials are to a certain extent arbitrary. In the absence of more perfect indices of consistency, however, the apparent viscosity seems to be a useful one.

For the measurement of consistencies of heavy oils, use has been made of an instrument known as a *mobilometer*. The dimensions have been adapted by Shedlovsky[2] for convenient use with contraceptive materials (see figure). The jelly or cream is placed in a cylinder and brought to body temperature. The time is then determined that is required for a perforated disk to be pushed a standard distance through the material by the force of a known weight. While the instrument does not

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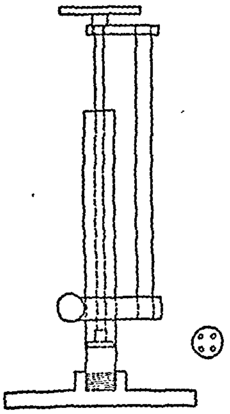
From the Department of Anatomy, Harvard Medical School.

1. Shedlovsky, L.; Belcher, D., and Bodner, H.: Consistency of Some Commercial Contraceptive Jellies, Human Fertil. 6:65 (June) 1941.

2. Shedlovsky, L.; Belcher, D.; Levenstein, I., and Bodner, H.: Changes on Aging in Consistency of Some Commercial Contraceptive Jellies, Human Fertil. 8:97 (Dec.) 1943.

determine true viscosities, it provides a convenient though somewhat arbitrary method of determining relative consistencies.

In Shedlovsky's instrument, which has been used for the measurements given, the inside diameter of the cylinder is ½ in. (1.27 cm.). The disk, mounted on a rod ⅛ in. (0.32 cm.) in diameter, is 0.485 in. (1.23 cm.) in diameter and $\frac{3}{32}$ in. (0.24 cm.) thick. It is perforated by 4 holes, each $\frac{1}{16}$ in. (0.16 cm.) in diameter. The pan at the top of the rod was loaded to give a total weight including disk and rod of 50 gm.[3] After more than 10 minutes is allowed in a waterbath at 37 C for temperature equilibrium, the time was determined that was required for the disk to fall 10 cm. through the contraceptive material from its upper surface.



Mobilometer designed by Shedlovsky, Belcher, Levenstein, and Bodner[2] for measuring consistencies of contraceptive material.

Stirring of a jelly, such as that involved in the passage through it of the mobilometer disk, usually resulted in a lower mobilometer time. For this reason only one determination was made with each filling of the instrument. The extrusion of the jelly from the tube in which it was dispensed probably lowered its mobilometer time, but this manipulation was the same as that required for its clinical use.

DESIRABLE CONSISTENCIES

No correlation has been established between the apparent viscosity as measured by the mobilometer and the effectiveness of a jelly or cream in preventing pregnancy. The difficulties of arranging such a test, the impossibility of securing materials that are equal in spermicidal activity yet differ in consistency, and above all the high cost of each failure of protection give little hope that a satisfactory test of this correlation will be arranged in the foreseeable future.

For the present we are forced to rely upon the opinions of clinicians based on a priori reasoning. For an approximate indication of these opinions, samples of contraceptive jellies and creams of known mobilometer times were submitted at 37 C to a group of 12 clinicians who had had extensive experience in the contraceptive field. They agreed that those with times of 20 seconds or less were too watery, and those with times of 5,000 seconds or more were too thick. Such a definition of the limits of desirable consistency is not completely satisfactory but appears to be the best available.[4]

CONSISTENCIES OF COMMERCIAL CONTRACEPTIVES

Shedlovsky showed that some manufacturers distribute contraceptive materials of unsatisfactory consistencies according to the definition given.[2] Of 46 brands tested in 1942, 15, or 33%, were too thick or too thin. This was also true of 25% of 51 brands which I tested in 1943, and of 14% of 22 brands secured in 1949.

To learn the recent trend, 60 brands made in the United States in 1951 were tested within a month of receipt from the manufacturer, dealer, or clinic. Eleven, or 18%, had mobilometer times of 20 seconds or less or 5,000 or more, and were therefore of unsatisfactory consistency according to the opinions of the clinicians quoted. It is hoped that the manufacturers will make this proportion smaller in the future.

The median time for the 60 brands was 116 seconds. The times of 25% of the brands were 42 seconds or less, and of the highest 25%, 235 seconds or more.

CHANGES OF CONSISTENCY WITH AGE

Early in the study of contraceptive jellies and creams, it was found that some gradually liquefied; others became unduly solid, and still others separated into liquid and solid portions. Each of these changes made them clinically unsatisfactory. For the protection of the consumer, such changes should not occur within the period elapsing between manufacture and final use.

A study of such changes was made by Brown,[5] who examined samples of 57 brands secured in 1941. He found that after 11 months at 37 C, 20 of these, or 35%, were unsatisfactory; they were either too fluid or too solid or had separated into solid and liquid portions. After 14 months at the same temperature, the number had increased to 40, or 70%. Stored at the refrigerator temperature of 8 C, 79% had good consistencies after 14 months, but such care is not to be expected in the usual pharmaceutical distribution.

Shedlovsky,[2] using his mobilometer, made a similar study of 17 brands secured in 1941 that had initial times of 24 to 750 seconds. After 12 months at room temperature, 5 of these had times of 20 seconds or less. After 4 months at 38 C, 10 (59%) were in this unsatisfactory group.

To secure information on the durability of subsequently manufactured commercial contraceptive materials, samples were tested after varying periods of storage. As in the reports of Brown[5] and Shedlovsky,[2] some of the tubes were kept at room temperatures (about 25 C) and some at 37 C. The latter temperature may be encountered on the shelves of druggists in the warmer parts of the country. Since most chemical reactions proceed more rapidly at higher temperatures, it is believed that if keeping qualities are satisfactory at 37 C, a factor of safety is indicated for the material in question under the more usual storage conditions.

Of the 51 brands secured in 1943, the proportion of 25% found unsatisfactory on receipt had increased after 12 months at room temperature to 37%, and after 24 months to 51%. Changes were more rapid at 37 C; the proportion found unsatisfactory after one and two years was 51 and 59% respectively.

More frequent determinations were made of 27 brands believed to be among those most widely distributed. Groups of 12 tubes from the same batches were secured in 1945, 1948, and 1949. The mobilometer times of 8% of these were outside the range of 20 to 5,000 seconds when received. This proportion had increased after one, two, and three years at room temperatures (average, 25 C) to 12, 18, and 30% respectively. Of the 1945 and 1948 samples, 42% were unsatisfactory after four years; of the 1943 samples, 61% were unsatisfactory after five years.

Changes were more rapid in samples kept at 37 C, some of the samples lasting less than a month. After two months, 30% were outside the satisfactory range. After one, two, and three years, the proportions were 58, 65, and 78% respectively. In the two earlier years, 82% were unsatisfactory after four years; of the 1943 samples, 83% were too thick or too thin or had separated after five years. These results show that satisfactory consistencies of contraceptive materials are possible after five years at room temperature and at 37 C. They also indicate that some materials become too thick or too thin after one or two years at room temperature and after one or more months at 37 C.

ACCELERATED AGING TESTS

Almost all of the materials were found to retain satisfactory consistencies longer at room temperatures than they did at 37 C. Most of those that became unsatisfactory at room temperature during the period of study were among the less durable at 37 C.

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[3] Shedlovsky[2] used a total weight of 46.5 gm. For standard measurements it seemed preferable to use the rounded weight of 50 gm., which was employed in the times herein reported.

[4] To assist the reader in understanding these values, mobilometer times were determined for some familiar liquids and semisolids. These were measured at room temperature (24 C), the condition under which the reader probably has seen them. The times in seconds were: automobile lubricating oil, S.A.E. 30 (average), 1.5; S.A.E. 60 (heavy, motorcycle oil), 10; honey, 20 to 1,820; molasses, 20 to 70; Karo corn syrup, 30; Knox dessert gelatin prepared according to directions and allowed to set in the mobilometer tube, 900; set in a cup and transferred to the mobilometer, 300; a second determination after the gelatin had passed twice through the holes in the disk of the mobilometer, 60.

[5] Brown, R. L.: Changes of Consistency of Contraceptive Preparations During Storage, Human Fertil. 7: 161 (Dec.) 1942.

[6] The median period of satisfactory consistency was about one month at 50 C (1945 and 1948) and five months at 45 C (1949). The correlation coefficient between the rank of durability at 37 C and that at the higher temperature was 0.2 in the 1945 group, 0.9 in 1948, and 0.6 in 1949.

To determine whether the rates of change in storage at 45 or 50 C would provide an index of the durability at the lower room temperatures, some of each group of 12 tubes were examined after keeping them at one of these higher temperatures. Again the durability was found to be less at the higher temperatures. Although such an abbreviation of the test period by the greater temperatures may be of value to the manufacturers in searching for durable mixtures, the correlation was not found sufficient to indicate that the results are useful to clinicians.[6]

CORRELATION BETWEEN MOBILOMETER TIMES AND PENETROMETER MEASUREMENTS

The Braun penetrometer has been used by some manufacturers to control the consistency of their contraceptive materials. This determines the distance to which a conical dart of standard design and standard weight penetrates into a semisolid material after falling a standard distance.

To determine the extent of correlation between the penetrometer and mobilometer measurements, samples of 22 brands secured in 1949 were tested by both methods. To avoid a possible effect of the stirring involved in extrusion from the container in which the material was packed, the sealed end of the tube was opened with as little disturbance of the jelly or cream as possible. After prolonged immersion in a waterbath at 37 C, the penetrometer dart was allowed to fall into the material, and the distance of penetration was determined.

The correlation between mobilometer and penetrometer measurements was negative as would be expected; in most instances a higher mobilometer time was associated with a lower penetration of the falling dart. The correlation however was slight; the correlation coefficient was -0.11.

This low correlation suggests that the two instruments measure different qualities. The most obvious difference is that the penetrometer causes a distortion of shape that is very rapid compared with that observed in the mobilometer. No evidence is available to show that the measurements of either instrument are superior to those of the other as a measure of clinically desirable qualities.

COMPOSITION OF CONTRACEPTIVE MATERIALS

It is important for progress in the contraceptive as in other medical fields that physicians should prescribe only mixtures whose compositions are known to them. If secret mixtures of the patent medicine type are used, there can be no assurance that materials ordered in the future will be the same as those found successful today. Furthermore, it will not be possible for the prescriber to improve future mixtures by choosing components that are successful and by avoiding those that prove unsatisfactory.

The Food and Drug Administration has recognized the importance of knowing the composition of contraceptive mixtures by requiring that the active ingredients be printed on the package. For contraceptive effectiveness the barrier action of the jelly-forming or cream-forming ingredients is of such importance that they are active ingredients and should be listed, along with those ingredients added for their spermicidal action.

SECRET MIXTURES

Of the 62 brands whose spermicidal times were tested in 1949,[7] 38% were secret mixtures. For 70 brands of 1951,[8] the proportion was 26%. That manufacturers may consider the unrevealed ingredients more profitable to sales is suggested by the fact that the maker of a widely advertised new material states that its formula is secret.

SUMMARY

A mobilometer provides a convenient measurement of the consistency of a contraceptive jelly or cream related to its viscosity. A group of experienced clinicians considered contraceptive jellies and creams unsatisfactory whose times by Shedlovsky's mobilometer were 20 seconds or less, or 5,000 seconds (83 minutes) or more. For 60 brands of contraceptive materials secured in 1951, the median time found was 116 seconds. Eleven of the 60 brands, or 18%, were found to have an unsatisfactory consistency on receipt. Of samples of the more widely distributed brands secured in 1945, 1948, and 1949, 18% were found to have an unsatisfactory consistency after two years at room temperature. Stored in an incubator maintained at 37 C, 58% were unsatisfactory after a year, and 62% after two years. Mobilometer times of the contraceptive materials tested were found to have no significant correlation with penetrometer measurements. Of the 70 brands secured in 1951, the formula could not be obtained from the manufacturer for 26%. Physicians using these materials of secret composition can have no assurance that future prescriptions will give the patient the same degree of protection. In contraceptive mixtures, the jelly-forming or cream-forming materials are considered active ingredients.

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7. Gamble, C. J.: Spermicidal Times of Contraceptive Jellies and Creams, 1949, J. A. M. A. 148:50 (Jan. 5) 1952.

8 Gamble, C. J.: An Improved Test of Spermicidal Activity without Dilution or Mixing, J. A. M. A. 152:1037 (July 11) 1953.

COUNCIL ON PHYSICAL MEDICINE AND REHABILITATION

APPARATUS ACCEPTED

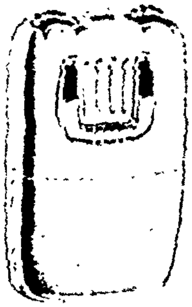
The following additional products have been accepted as conforming to the rules of the Council on Physical Medicine and Rehabilitation of the American Medical Association for inclusion in Apparatus Accepted. A copy of the rules on which the Council bases its action will be sent on application.

RALPH E. DE FOREST, M.D., *Secretary.*

Fortiphone Hearing Aid, Model 20 A

Fortiphone Ltd., Fortiphone House, 247 Regent St., London, England, 1, W. Distributor: Anton Heilman, 75 Madison Ave., New York 16.

The Fortiphone Hearing Aid, Model 20 A, uses three English-made vacuum tubes for amplification and is powered by a 1.5 volt Vidor A-battery and a 22.5 volt Siemax B-battery. It is capable of giving a higher acoustic gain than is the Fortiphone Hearing Aid, Model 21 C, but also has an automatic volume control, referred to as the AVC, which limits the maximum output of the instrument and prevents the intensity of sound from reaching the user's threshold of pain.



Fortiphone Hearing Aid, Model 20 A

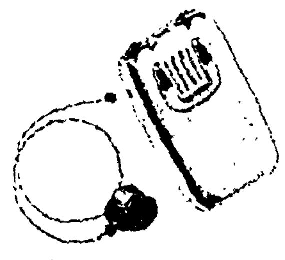
The body of the instrument measures 98 by 60 by 23 mm. and weighs 117.7 gm. The added weight of batteries, earphone, and earphone cord make a total of 180.5 gm.

The Council obtained evidence that this device was soundly constructed and performed as claimed by the manufacturer.

Fortiphone Hearing Aid, Model 21 C

Fortiphone Ltd., Fortiphone House, 247 Regent St., London, England, 1, W. Distributor: Anton Heilman, 75 Madison Ave., New York 16.

The Fortiphone Hearing Aid, Model 21 C, uses three English-made vacuum tubes for amplification and is powered by a 1.5 volt Vidor A-battery and a 22.5 volt Siemax B-battery. The body of the instrument measures 98 by 60 by 23 mm. and weighs 119 gm. With batteries, earphone, and earphone cord the total weight is 175 gm. Earphones are supplied for air and bone conduction.



Fortiphone Hearing Aid Model 21 C

Evidence of satisfactory construction and performance was obtained by the Council.

THE JOURNAL
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QUESTIONNAIRE ON POSTGRADUATE EDUCATION

Postgraduate education for practicing physicians has become increasingly popular since the end of World War II. The Council on Medical Education and Hospitals has received since the war a large volume of correspondence requesting advice and information from both the producers and the consumers of postgraduate medical education. During these years it has been impossible for the Council to do more than answer superficially these numerous inquiries. The House of Delegates, therefore, authorized the Council to make a thorough study of this problem, and in April, 1952, a member was added to the staff to make such a study. The first steps were to analyze all data that were already available in the files of the Council and then to visit all the medical schools in the United States, many of the state medical societies, the state health departments, hospitals, clinics, special societies, voluntary health agencies, and a variety of other organizations engaged in postgraduate medical education. It became apparent that the material thus obtained gave only a part of the picture and that the physicians themselves who desire to undertake postgraduate courses should be canvassed for their views on the matter. Accordingly, a survey is now being made of about 18,000 doctors, utilizing for this purpose a questionnaire that was mailed from this office November 10. The questionnaire was sent to physicians in all parts of the country, and it is requested that they be filled out and returned to the Council office in A. M. A. headquarters not later than November 30.

It is expected that a comprehensive view of the whole field will result from this more balanced approach to the problem. The study is also expected to suggest recommendations for the future activities of the Council in this field. All information from the questionnaire will be treated anonymously, and no coding device will be used to identify those who answer. The cooperation of physicians in answering promptly and accurately the various questions will be greatly appreciated. The ultimate benefit should be an extension and improvement of the ways and means that physicians have found most effective in keeping up-to-date with the progress of medicine.

MILITARY REQUIREMENTS FOR PHYSICIANS

The requirements of the Department of Defense for medical officers are of interest to all those physicians who are obligated for military service. Those obligated are also interested in the approximate time they may be required to enter the military service. In view of this, the estimated requirements of the Department of Defense for physicians for the next two years are here presented.

Future requirements for physicians are directly affected by and based on the total requirements for military personnel. The estimates of future military needs for personnel are based on an assumption of the type and extent of future military operations. For the purpose of this presentation, it is assumed that the international situation with respect to employment of the armed forces of the United States will remain unchanged. Any increase or decrease of military activity as a result of the international situation will alter the military needs for physicians.

At the inception of the Korean emergency on June 25, 1950, the military physician strength of the armed forces was composed of several categories of medical officers. These were regular medical officers, including those in residency training, and reserve medical officers, including career reservists, interns, and reservists who entered military service for a short tour of duty as a result of the "moral suasion" program. Immediately after the Korean emergency, medical reserve officers were involuntarily ordered to duty to keep pace with the increase in total military personnel and operational activity. With the enactment of the "Doctor-Draft" act (Public Law 779, 81st Congress) on Sept. 9, 1950, civilian physicians became liable for military service for a maximum of 21 months, which later was extended to 24 months' service.

The total military physician strength of almost 6,200 in June, 1950, increased to approximately 13,500 in June, 1951, and has been maintained near that strength to date. As reservists were released from duty on completion of their required tour, other physicians entered the military service as replacements. To build up and maintain the required number of military physicians, a total of 17,205 physicians entered the military service during fiscal years 1951, 1952, and 1953. There is a cyclic nature to the needs of the armed forces for physicians, the greater requirements occurring in the odd-numbered fiscal years and the smaller requirements occurring in the even-numbered fiscal years. This cyclic change in yearly increments is primarily the result of the specified length of service required of medical officers brought to duty under the impetus of the "Doctor-Draft" act. Thus, the number of physicians entering active duty in the armed forces in 1951 was 7,835; in 1952 it was 3,014; in 1953 it will be 6,356; and, in 1954 and 1955, it probably will be 3,100 and 5,300 respectively.

It is understood that the total medical officer strength in the armed forces will decrease during the next 12 months to a total strength of approximately 11,500 and will remain at that level barring changes in the military situation. To fill this requirement, it is estimated that a total of 8,400 physicians will enter the military service during fiscal years 1954 and 1955.

During the first quarter of fiscal year 1954 (July through September, 1953) approximately 1,950 physicians entered the military service. These physicians comprise those who were commissioned as a result of induction calls during April, May, and June, 1953, certain physicians completing internship this year and who were priority 1, 2, and 3 special registrants, reserve medical officers previously deferred or otherwise obligated, and volunteers.

The military departments now have a sufficient pool of reservists to fulfill the requirement of 1,150 physicians for the remainder of fiscal year 1954. This pool of reservists is comprised of physicians who volunteered for a commission and active duty during July and August, 1953, physicians who were commissioned as the result of the August, 1953, Selective Service call, and obligated reservists who were previously deferred. Included in the requirement of 1,150 physicians are the estimates of the military departments for a portion of next years' military intern class that will be recruited from senior medical students graduating during June, 1954. Prior to July, 1954, there is little likelihood, it is reported, of any calls being placed by the Department of Defense with the Selective Service System to bring special registrant physicians into the military service.

An estimated requirement of the armed forces for physicians to enter the military service during fiscal year 1955 is 5,300. These physicians will be supplied from priority 1 and 2 reservists and special registrants who have been deferred for essentiality or hardship; priority 3 special registrant physicians who became available in July, 1953, at the completion of their internships but who will not be brought to duty during fiscal year 1954; priority 3 special registrant physicians who will complete internship during June, 1954, and become available at that time; and priority 3 special registrant physicians who will be brought to duty as volunteers and as the result of Selective Service calls.

According to the best available information, there was a total of 2,234 nonveteran medical school graduates in 1952 and 2,791 in 1953. It is estimated that 1,800 of these graduates should be available for military service as priority 3 special registrants after June, 1953, and 2,230 after June, 1954. The number of physicians completing internships during June, 1953, who will be brought to duty during fiscal year 1954 is not known at this time; however, from available evidence the large majority of this group will remain to be called to duty as a result of Selective Service calls during fiscal year 1955. It can be estimated that well over half of the requirements of the armed forces for 5,300 physicians for fiscal year 1955 will be filled with priority 3 special registrant physicians who completed internships in June of 1953 and 1954, and a relatively small number of priority 1 and 2 special registrant and reserve physicians who may become available at that time. The remainder will be supplied from the priority 3 pool of special registrant physicians.

FIRST TEACHING INSTITUTE OF ASSOCIATION OF AMERICAN MEDICAL COLLEGES

During the week of October 19 to 23, just before its 64th annual meeting, the Association of American Medical Colleges conducted its first teaching institute at Atlantic City. The area covered included physiology, biochemistry, and pharmacology. Over a year of careful preliminary planning lay behind the institute, and this was undoubtedly largely responsible for its outstanding success as a unique experience for the delegates attending from the medical schools of the United States and Canada. Initial small groups, followed by larger group discussion and eventual summarization, covered such important topics as content of courses, interrelationships between basic medical science departments and between basic medical science and clinical departments, teachers, and, finally, teaching and learning techniques.

The free interchange of ideas and the sincere discussions of the complex and perplexing problems associated with the vast increase in current knowledge in basic medical sciences did much to create better perspective on the part of all who participated. The problems associated with bridging the still too wide gap between basic knowledge in physiology, biochemistry, and pharmacology and their clinical application to the diagnosis and care of patients as well as to the advance in knowledge through research were given careful consideration.

Much concern was evident in regard to the problems that the students face in this exciting and dynamic period of medical history. Careful reevaluation of course content, with particular emphasis on analysis of the relative merits of some phases of laboratory work in the basic medical sciences, indicated widespread dissatisfaction with the content, teaching methods, and techniques of many current programs. It was obvious that there is increasing dissatisfaction with traditional methods and that a stimulating experimental ferment has become evident in many of our medical schools. The desire to experiment continuously in an effort to make teaching more effective and learning opportunities more valuable and to avoid stereotyping of undergraduate medical education was evident throughout the entire institute.

It is to be hoped that the enthusiasm for self-evaluation and critical departmental and institutional analysis will be transmitted from the institute by the delegates and deans to their institutional colleagues as they return to their respective schools. Congratulations are due to the Association of American Medical Colleges for this foresighted progressive development of what is in essence a national faculty self-analysis in connection with their annual meetings. Subsequent institutes will undoubtedly prove to be equally effective in the respective areas that they will cover.

ORGANIZATION SECTION

SIXTH ANNUAL MEDICAL PUBLIC RELATIONS CONFERENCE

Hotel Jefferson, St. Louis

Monday, November 30, 1953

PROGRAM

REGISTRATION

9:00 a. m., Gold Room Foyer

OPENING SESSION

10:00 a. m., Gold Room

Chairman: Franklin L. Shively Jr., M.D., Dayton, Ohio, Vice-President, Montgomery County Medical Society

Address of Welcome

George F. Lull, M.D., Chicago, Secretary and General Manager, American Medical Association

Keynote Address: Facing Up to PR Facts

Walter B. Martin, M.D., Norfolk, Va., President-Elect, American Medical Association

MAKING A PR PROGRAM WORK

10:30 a. m., Gold Room

How My Society Does It

Josephine Renshaw, M.D., Washington, D. C., Chairman, Public Relations Committee, Medical Society of the District of Columbia

Clyde W. Miller, M.D., Wichita, Kan., Chairman, Public Relations Committee, Kansas State Medical Society

David Welton, M.D., Charlotte, N. C., President, Mecklenburg County Medical Society

Lewis A. Alesen, M.D., Los Angeles, Calif., Past President, California Medical Association

We'd Like to Know (Questions directed at symposium participants)

Charles S. Nelson, Columbus, Ohio, Executive Secretary, Ohio State Medical Association

William Alan Richardson, Rutherford, N. J., Editor, *Medical Economics*

Leo E. Brown, Chicago, Director of Public Relations, American Medical Association

LUNCHEON

12:30 p. m., Ivory Room

Toastmaster: Edwin S. Hamilton, M.D., Kankakee, Ill., Trustee, American Medical Association

What Motivates the Public's Feelings Toward Medicine

Leo H. Bartemeier, M.D., Detroit, Chairman, Committee on Mental Health, American Medical Association

SELLING OUR ECONOMIC SYSTEM:

HOW OTHERS DO IT

2:00 p. m., Gold Room

Chairman: E. Claude Bohrer, M.D., West Plains, Mo., President, Missouri State Medical Association

Howard W. Bennett, New York, Manager, Economic Education, Plant Community Relations Department, General Electric Company

Roger Fleming, Washington, D. C., Secretary-Treasurer, American Farm Bureau Federation

Questions and Discussion

MENDING OUR PR FENCES

3:00 p. m., Gold Room

Moderator: Rollen Waterson, Oakland, Calif., Executive Secretary, Alameda-Contra Costa County Medical Association

A National View

Edwin Crosby, M.D., Chicago, Director, Joint Commission on Accreditation of Hospitals

Our Audit Program Works!

Durward Blakey, M.D., Clarksdale, Miss., Secretary-Treasurer, Clarksdale and Six Counties Medical Society

Mediation Committee with Teeth

David W. McCarty, M.D., Longmont, Colo., Chairman, Board of Supervisors, Colorado State Medical Society

Tissue Committee—Watchdog for the Public

Henry V. Weinert, M.D., Passaic, N. J., Chairman, Tissue Committee, St. Mary's Hospital

THE YEAR AHEAD

4:45 p. m., Gold Room

What's in Store for '54

Leo E. Brown, Chicago, Director of Public Relations, American Medical Association

5:00 p. m., Adjournment of Conference

JOINT CONFERENCE ON MENTAL HEALTH

The American Medical Association, through its Committee on Mental Health, and the American Psychiatric Association jointly sponsored a conference on mental health in Washington, D. C., Oct. 24-25. This was the first time that representatives from more than 50 lay and medical organizations interested in mental illness had an opportunity to discuss together this major problem. Discussion was centered on four major topics: the educational process in training mental health workers, research, treatment, and prevention. Welcoming addresses were given by Dr. Walter B. Martin, President-Elect of the American Medical Association, and Dr. Kenneth E. Appel, president of the American Psychiatric Association. The main objective of the sponsoring organizations was brought out by Dr. Martin when he said: "There is a growing confidence in psychiatry and a mounting conviction that its principles need to be reintroduced into all phases of medical practice, to rehumanize medicine and, in this sense, return to medicine as a healing art. . . . This occasion may well mark the remarriage of partners, who should never have been divorced in the first place."

DR. LARSON RECEIVES PATHOLOGISTS' AWARD

Dr. Leonard W. Larson, Bismarck, N. D., a member of the A. M. A. Board of Trustees, recently received from the American Society of Clinical Pathologists a special award for outstanding contributions to pathology and to the society. The award is called a Scroll of Merit, which includes a medal and a certificate. Dr. Larson was the fourth member of the society to receive this award in its 32 years of existence. He has served for many years on the executive committee and has filled every office in the society during the last 25 years.

NEW HEART EXHIBIT

The pumping action of the heart and its valves are shown graphically in a new health education exhibit now available from the A. M. A.'s Bureau of Exhibits for showings to public groups. In this heart display, the sequence of events set in motion by exercise is demonstrated to show the circulation of the blood from the body to the heart, then through the lungs returning to the heart and back through the body again. Suggestions on how to prevent heart strain as well as symptoms of heart disease also are presented. This exhibit requires an extended space 20 feet long and 4 to 6 feet in depth. If space is limited, however, it may be shown in a booth 10 feet square. State and county societies may book the exhibit through the Bureau.

MEDICAL NEWS

ALABAMA

Joint Meeting of Physicians and Pharmacists.—Following a joint meeting, the physicians-pharmacists relations committees of the Alabama Medical Association and the Alabama Pharmaceutical Association adopted the following recommendations:

(1) That the widespread misuse of barbiturates and narcotics is deplorable and that the associations pledge continued vigorous and whole-hearted efforts further to protect the public health and aid in every way possible in stamping out these injurious practices.
(2) That continued education of both the physician and the pharmacist on the refilling of prescriptions under FDA regulations be undertaken.
(3) That no drug store name be used on prescription blanks and that the patient have freedom of choice of drug store in which the prescription should be filled.
(4) That joint meetings of physicians and pharmacists be held in every county and district to discuss mutual problems and encourage better relations.
(5) That doctors refrain from prescribing a little of every new item detailed to them and thereby help eliminate some of the druggists' problems.
(6) That druggists generally make a practice of using a nonrefill label strip on narcotic drugs.
(7) That a more uniform pricing of drugs be established.
(8) That a code of relations between physicians and pharmacists be considered and adopted for mutual progress to further protect the public health.

ARIZONA

New St. Joseph's Hospital.—On Aug. 17, St. Joseph's Hospital opened the doors of its new 6 million dollar building, which has a capacity of 325 beds, with piped-in oxygen at each bed. There are 10 operating rooms, 9 private labor rooms, and 4 delivery rooms; the emergency department consists of 3 operating and fracture rooms, a 4-bed recovery room, and a special emergency treatment room for patients with acute asthma. The outpatient department occupies one full wing of the building. A complete department of physical medicine and vocational rehabilitation is under the direction of a full time board-approved psychiatrist. St. Joseph's Hospital maintains an approved school of nursing and approved schools of medical technology and x-ray technology. With the opening of the new building, the old 198-bed St. Joseph's Hospital was closed.

New St. Joseph's Hospital in Phoenix

CALIFORNIA

Clinic for Hard-of-Hearing Children.—A diagnostic clinic for deaf and hard-of-hearing children has been opened at Childrens Hospital in Los Angeles. The new clinic will deal primarily with the total problem of the deaf child from the standpoint of medical care, possible corrective surgery, the communication problem, and psychological evaluation. Dr. Victor Goodhill is medical director of the clinic, which is located in a sound-treated suite in the Michael J. Connell Clinic building at Sunset Blvd. and Vermont Ave.

Personal.—Dr. Karl M. Bowman, professor of psychiatry, University of California Medical School, San Francisco, was recently awarded the honorary degree of doctor of science by Washburn University, Topeka, Kan.——Dr. Frederic J. Gaspard, who has practiced medicine in Los Angeles for more than 30 years, has been appointed as a member of the Los Angeles City Health Commission to succeed Dr. Francisco Bravo.——Dr. William M. Heidenreich was honored by his community in Arcadia when he retired from many years of service on the local board of education. After a testimonial dinner at the high school, a plaque was unveiled in the school's little theatre, which was dedicated as William M. Heidenreich Hall.——Dr. Robert Wartenberg, clinical professor of neurology, University of California Medical School, San Francisco, has been appointed honorary professor at the University of Freiburg, Germany, where he was a member of the faculty until 1935.——Dr. Bruce W. Halstead of the College of Medical Evangelists in Loma Linda has been invited to review the present status of fish poisoning in the Pacific for the eighth Pacific Science Congress, which will be held Nov. 16-28 at the University of the Philippines in Quezon City.

ILLINOIS

University Toxicology Service.—The University of Illinois College of Medicine, Chicago, reports that a total of 631 cases was handled during the 1952-1953 fiscal year by the division of toxicology of the department of pharmacology, with 491 cases handled for the coroner of Cook County. The university maintains a toxicological analytic service for law-enforcing agencies, physicians, and hospitals of the state. The service is available only to state's attorneys, hospitals, and physicians in Illinois. Services performed include blood alcohol, barbiturate, heavy metals, carbon monoxide poisoning, and alkaloidal analysis and a complete analysis if the cause of death is unknown. A nominal fee is charged for these services.

Dr. Vonachen Honored.—A citation for outstanding service in promoting the employment of physically handicapped persons was bestowed on Dr. Harold A. Vonachen, medical director of Caterpillar Tractor Company, Peoria, at a dinner sponsored by the Governor's Committee for Employment of the Physically Handicapped and the Disabled American Veterans at the LaSalle Hotel, Chicago, Oct. 4. The citation honors Dr. Vonachen for his work in pioneering the "Peoria Plan for Human Rehabilitation," which, first launched in 1942, established a national pattern, with other cities and towns throughout the country sending medical, industrial, and civic representatives to Peoria to study means of applying the program to their own communities. Representatives also came from England, Canada, Czechoslovakia, and Belgium. An outgrowth of the Peoria plan, the Institute of Physical Medicine and Rehabilitation of Peoria, a nonsectarian organization of which Dr. Vonachen is president, was established in 1951. Dr. Vonachen was presented with the William S. Knudsen award (1943-1944) for "outstanding work in the development of a program for the employment of handicapped Caterpillar workers which laid the foundation for a community-wide human rehabilitation program called 'The Peoria Plan for Human Rehabilitation.'" The Disabled American Veterans also honored Dr. Vonachen with a certificate of merit.

Chicago

Society News.—The Chicago Medical Society announces a dinner at 6:30 p. m., Nov. 17, at the Sheraton Hotel, 505 N. Michigan Ave., in honor of Dr. Joe V. Meigs, clinical professor, department of gynecology, Harvard Medical School, Boston, and Dr. Alan F. Guttmacher, clinical professor, obstetrics and gynecology, Columbia University College of

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Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education and public health. Programs should be received at least three weeks before the date of meeting.

Physicians and Surgeons, New York, who will be guest speakers at the joint meeting of the Chicago Medical Society and the postgraduate course in obstetrics and gynecology. At 8 p. m. Dr. Meigs will discuss "Fibromas of the Ovaries, the So-Called Meigs' Syndrome." Dr. Guttmacher will present "Conception Control: Modern Methods and Future Possibilities."

Board of Health Examinations.—The Chicago Civil Service Commission announces examinations for the following positions in the Chicago Board of Health: (1) chief medical officer ($10,000); (2) chief of division of laboratories ($10,000); (3) chief statistician ($10,000); (4) director in charge of drugs and biologics ($7,200); (5) chief of dental health section ($6,150); (6) bureau chief of communicable diseases ($6,120); and (7) chief bureau of child welfare ($6,120). Incumbents must reside in Chicago and be eligible to apply for any appropriate Illinois license. Application forms must be on file by Dec. 1, 4:30 p. m. Examinations will be held Dec. 5. For information, write or call Civil Service Commission, Room 208, City Hall, 121 N. LaSalle St.; RAndolph 6-8000, Ext. 582.

Panel on Hypertensive Cardiovascular Disease.—Dr. George E. Wakerlin will serve as moderator for a panel on hypertensive cardiovascular disease at a meeting of the Scientific Section of the Chicago Heart Association in Albert Dickinson Hall, Chicago Academy of Sciences, 2001 N. Clark St., Nov. 17, 8 p. m. His paper, "Pathogenesis of Hypertension," will be followed with "Treatment of Hypertension from a Surgeon's Viewpoint" by Dr. Loyal Davis and "Treatment of Hypertension from an Internist's Viewpoint" by Dr. Theodore N. Pullman. Dr. Louis N. Katz, who will open the discussion with "The Natural History of Untreated Hypertension," and Dr. William A. Thomas will serve as panel members. All professional members of the Chicago Heart Association are invited. Incoming telephone calls will be received at LIncoln 9-0606.

IOWA

Institute on Heart Diseases.—An institute on heart diseases under the joint sponsorship of the state department of health and the department of pediatrics and internal medicine, State University of Iowa College of Medicine, will be held at University Hospitals, Iowa City, Nov. 19, 1:30-9:30 p. m. The following program will be presented:

Lewis Thomas, Minneapolis, Research on the Pathogenesis of Rheumatic Fever.
Charles D. May, Iowa City, Rheumatoid Arthritis in Children.
Richard V. Ebert, Chicago, Physiology of the Circulation in Acute Infections.
William B. Bean, Iowa City, Clinical Problems in Aortic Stenosis.

The institute is open to all physicians. Opportunity will be given for inspection of the cardiovascular laboratory at the university.

MASSACHUSETTS

Chandler Ford Fund.—A fund of $40,000 has been established at the Boston University School of Medicine, to be known as the Chandler Ford Fund, for research in connection with diseases of the ear and the cure of deafness. The department of otolaryngology will make use of this fund according to the wishes of the late Mr. Chandler Ford, who made this bequest.

Society News.—The fall meeting of the Massachusetts Society of Examining Physicians will be held at the Harvard Club, Boston, Nov. 18, 6:30 p. m. After the dinner Dr. Paul R. Hawley, Chicago, director, American College of Surgeons, will speak on the subject, "Some Problems as They Affect the Profession, the Individual Doctor, and the Public." All physicians are cordially invited.

NEW JERSEY

Medical Alumni Day.—The sixth annual alumni-day meeting of the Jersey City Medical Center Alumni Association, Nov. 20, will open at 9:30 a. m. with a symposium on chronic infections, which will include the following presentations by Jersey City physicians:

Diagnosis and Management of Pyelonephritis, (Urology), Jacob D. Katz.
Chemotherapy of Pulmonary Tuberculosis, Samuel Cohen.
Subacute Bacterial Endocarditis, Bernard Eisenstein.
The Problem of Viral Hepatitis, Angelo M. Gnassi and Carroll M Leevy.

Memorial Day ceremonies will be held from 11:45 a. m. to 12:45 p. m., when the memorial lecture, "Diagnosis of Head and Neck Cancer in Children," will be delivered. From 3 to 4:30 p. m. surgery in infections will be discussed:

Experience with Generalized Peritonitis, Irving Marshall, Jersey City.
Current Concepts of Osteomyelitis, Leo E. Fischer, Jersey City.
Use of Varidase in Management of Surgical Infections, Manly B. Donaldson, New York.
The Problem of Infected Abortions, Victor Wagner, Jersey City.

NEW YORK

Society News.—"Respiratory Allergy in Infancy and Childhood" will be presented by Dr. Lewis Webb Hill, associate professor of pediatrics, Harvard Medical School, Boston, and will be discussed by Dr. Bret Ratner, professor of clinical pediatrics (allergy), New York Medical College, at a meeting of the section on allergy, Medical Society of the County of Kings and Academy of Medicine of Brooklyn (1313 Bedford Ave., Brooklyn 16) on Nov. 19, 9 p. m.

Meeting on Arthritis.—A postgraduate teaching day on arthritis and rheumatism was conducted at the Rochester Academy of Medicine, 1441 East Avenue, Rochester, Nov. 12, under the sponsorship of the arthritis and rheumatism committee of the Health Association of Rochester and Monroe County. Dr. Charles L. Steinberg, Rochester, served as chairman for the following program:

Differential Diagnosis of Rheumatoid Arthritis, Charles A. Ragan, New York.
Present-Day Treatment of Chronic Arthritis, Joseph Lee Hollander, Philadelphia.
Vascular Lesions in Rheumatoid Arthritis, Joseph J. Bunim, Bethesda, Md.

New York City

Harvey Lecture.—Dr. David Nachmansohn, Columbia University College of Physicians and Surgeons, will deliver the third Harvey lecture, "Metabolism and Function of the Nerve Cell," of the 1953-1954 series at the New York Academy of Medicine, Nov. 19.

Tumor Clinic.—Dr. Gray H. Twombly, professor of gynecology, New York University College of Medicine, will present "A Clinical Evaluation of Different Methods of Treatment of Cancer of the Cervix" at the tumor clinic conference at Harlem Hospital (Women's Pavilion, Main Floor, 137th St. Entrance), Nov. 18, 10:45 a. m.

The Salmon Lectures.—The final lecture of the 21st series of the Thomas William Salmon lectures on cultural and mental disorders will be "Culture and Hysteria" by Ralph Linton, Ph.D., Sterling Professor of Anthropology, Yale University, New Haven, Conn., Nov. 17, 8:30 p. m., at Hosack Hall, New York Academy of Medicine, 2 E. 103rd St.

OHIO

Industrial Medicine Program.—A symposium, "Dangers of Solvent Handling," will be presented before the section on industrial medicine and hygiene of the annual Greater Cincinnati Safety Conference, Nov. 17. The speakers include Floyd A. Van Atta, Ph.D., director of industrial hygiene, National Safety Council, Chicago, whose topic is "Toxicity of Solvents"; Dr. Edward A. Gall, professor of pathology, University of Cincinnati College of Medicine, who will discuss "The Effects of Solvent Absorption on the Human Body"; and Dr. Donald J. Birmingham, division of occupational health, U. S. Public Health Service, Washington, D. C., who will present "The Effects of Solvents on Human Skin." A panel discussion and question period on safe handling of solvents will complete the program. Co-chairmen for the section meeting in Parlor H, Hotel Sheraton-Gibson, 2:15

to 4:15 p. m., are Dr. James P. Hughes, Bureau of Industrial Health of the Cincinnati Health Department, and Miss Margaret Carnine, R.N., Trailmobile, Inc. Members of the medical and nursing professions are cordially invited to attend the conference and to participate in the discussion period at the meeting of the section on industrial medicine and hygiene.

PENNSYLVANIA

Mellon Lecture.—Dr. Paul Gyorgy, chief of service, department of pediatrics, Hospital of the University of Pennsylvania, Philadelphia, will deliver the 37th Mellon lecture, "Some Aspects of Protein Nutrition," before the Society for Biological Research of the University of Pittsburgh School of Medicine, Nov. 20.

WASHINGTON

Course on Advances in Drug Therapy.—A course on recent advances in drug therapy will be given in the Health Sciences Building, University of Washington School of Medicine, Seattle, Nov. 20-21, under the sponsorship of the university, the Washington State Medical Association, and the Washington State Department of Health. Friday will be devoted to discussions of metabolic disorders, infectious diseases, gastrointestinal diseases, and hematology, and Saturday to diseases of the nervous system and cardiovascular diseases.

PHILIPPINE ISLANDS

Pacific Science Congress.—The eighth Pacific Science Congress of the Pacific Science Association will convene at the University of the Philippines, Quezon City, Nov. 16-28, under the auspices of the Republic of the Philippines and the National Research Council of the Philippines. The section on public health will present (1) progress reports and panel discussions on specific public health problems, including malaria, schistosomiasis japonica, Bancroftian filariasis, yaws, and other diseases important to Pacific areas; and (2) progress reports and seminars on rural health and sanitation, including recruitment and training of personnel. The section on nutrition will discuss the place of nutrition education in the public health program; high protein substitutes for milk in child feeding; urinary excretion of thiamine and riboflavin of Filipinos; and the relationship between dietary intake and serum levels of vitamin A and carotene.

GENERAL

Fellowship in Pediatric Neurology.—One year's fellowship in pediatric neurology is now available in the Julian D. Levinson research foundation in conjunction with the children's division of the Cook County Hospital, Chicago; salary $3,500. For details communicate with Dr. Abraham Levinson, Children's Division, Cook County Hospital, Chicago 12.

Annual Cerebral Palsy Meeting.—United Cerebral Palsy has scheduled its fourth annual convention for Nov. 13-15 at the Hotel New Yorker in New York. Physicians who will deliver addresses include: Bronson Crothers and Sidney Farber, Boston; Samuel M. Wishik, Pittsburgh; Charles F. McKhann, Philadelphia; H. Houston Merritt, New York; and Glidden L. Brooks, Pittsburgh, UCP medical director.

Meeting on Electronic Instrumentation.—The annual conference on electronic instrumentation and nucleonics in medicine will be held at the New Yorker Hotel in New York, Nov. 19-20, under the sponsorship of the American Institute of Electrical Engineers, Institute of Radio Engineers, and the Instrument Society of America. Recent advances in instrumentation for x-ray motion pictures, the use of ultrasonic waves in the visualization of soft tissue structures and cancer, analytical methods in blood serum determinations, and other papers on medical instrumentation will be presented.

Industrial Hygienists Meet in Pittsburgh.—The 18th annual meeting of the Industrial Hygiene Foundation will be held at the Mellon Institute, Pittsburgh, Nov. 18-19. Dr. Oscar A. Sander, Milwaukee, chairman, medical committee, will be chairman of a conference on trends in industrial medicine Wednesday morning. The program will open with the presentation, "The Proper Scope of Medical Care in Industry," by Dr. Carl M. Peterson, Secretary, A. M. A. Council on Industrial Health, and discussion by Dr. Joseph H. Chivers, Chicago. Other papers will be presented as follows:

The Stress Disorders, William P. Shepard, New York; discussion, Dr. Samuel T. Nicholson Jr., Pottstown, Pa.

Problems Associated with Older Workers, Charles E. Dutchess, New York; discussion, Edward M. Kline, Cleveland.

Compensation for Residual Disability, Clarence D. Selby, Ann Arbor, Mich.; discussion, Edward H. Carleton, East Chicago, Ind.

Dr. Sander will also serve as chairman for the joint medical-legal conference Wednesday afternoon, and he and Dr. James P. Hughes, Cincinnati, will participate in a panel discussion, "Administration of Workmen's Compensation Laws."

New England Diabetes Fair.—The diabetes fair, sponsored by the New England Diabetes Association, will be held Nov. 16-17 during National Diabetes Week, at Horticultural Hall, Boston, from 11 a. m. to 10 p. m. The committee consists of Dr. Harry Blotner, Boston, chairman, and Drs. Frank N. Allan, Boston, Charles W. Finnerty, Somerville, Mass., and Alexander Marble and Howard F. Root, Boston, and the association officers, Dr. Richard P. Stetson, Boston, president; Dr. Reed Harwood, Boston, vice-president; Dr. Lewis Tillman McDaniel, Brookline, Mass., treasurer; and Dr. Charles C. Bailey, Boston, secretary. To stimulate the interest of the public concerning diabetes, there will be exhibits illustrating various phases of diabetes and its management: pharmaceuticals, dietetics, social and public service aids, diabetes camps, insurance for diabetics, diabetes detection in certain communities, nursing care in the hospital and home, books and pamphlets on diabetes, and charts illustrating medical and surgical features of diabetes. Motion pictures will be presented throughout the day. Lecture programs in the afternoon and evening of both days will feature panel discussions on diabetes. X-rays of the chest will be available, and facilities will be provided for urine sugar and blood sugar testing to be made while the subjects watch the procedure. Physicians, medical students, nurses, social workers, the public at large, and other interested groups are invited to attend the fair.

LATIN AMERICA

Centennial in São Paulo.—For the fourth centennial of its founding, the city of São Paulo, capital of the state of São Paulo, Brazil, is planning a series of cultural events that will include meetings of medical interest. Scheduled for April, 1954, is the International Congress of Surgery of the International College of Surgeons; for July, the International Cancer Congress, International Cardiological Congress, International Congress on Oto-Neuro-Ophthalmology, Pan American congresses of gastroenterology and on puericulture and pediatrics, South American Congress of Angiology, which will deal with the etiopathogenesis, medical and surgical treatment of arteriosclerosis obliterans, and Latin American congresses on gynecology and obstetrics and on mental health; for November, the 10th International Congress on Medicinal and Similar Plants. Information may be obtained from the secretary, Associação Paulista de Medicina, Caixa Postal 2103, São Paulo, Brazil, or from the Committee on the Fourth Centennial of the City of São Paulo, Rua 24 de Maio, 250-7° andar, São Paulo, Brazil, S. A.

FOREIGN

London Medical Exhibition.—An annual medical exhibition will be held at the New Horticultural Hall, Greycoat St., Westminster, Nov. 16-20, for display of the latest developments in pharmaceutical research, ethical medical products, surgical instruments, hospital equipment, etc. Members of the public are not admitted, but a special welcome is extended to members of the medical profession in America and other overseas countries. Information may be obtained from the organizers, The British & Colonial Druggists Ltd., 194-200, Bishopsgate, London, E.C.2., England.

DEATHS IN OTHER COUNTRIES

Dr. René Sand, an honorary member of the American Medical Association, died Aug. 23 in Brussels, Belgium, at the age of 76. Dr. Sand, who was the founder of the Belgium Social Medicine Association in 1912, founded the International Hospitals Association in 1929 and was its first president, and served also as president of its postwar successor, the International Hospital Federation, from its foundation in 1947 to his death. He was technical adviser to the League of Red Cross Societies from 1921 to 1936 and secretary-general of the Belgium Ministry of Health from 1937 to 1940, when he was captured by the Nazis and imprisoned in Tyrol, Austria, where in 1945 he was liberated by the U. S. Seventh Army. Dr. Sand presided over a committee of experts assembled by the UN in Paris in 1946 to draft an international health organization, and in 1950 he was appointed chairman of the World Health Organization expert committee on professional and technical education. He recently served as chairman of the 8th International Hospital Congress in London. After World War II Dr. Sand was the first occupant of a chair of social medicine established in the University of Brussels with the support of the Rockefeller Foundation. He founded the Belgium Committee on Social Work and the International Conference on Social Work and was recently elected the first president of the Societé Belge de Droit International Médical, which is dedicated to the study and development of international medical law. An honorary member of the American Hospitals Association and the New York Academy of Medicine, Dr. Sand was awarded the Leon Bernard Foundation prize in 1951. He was to have been one of the vice-presidents of the First World Conference on Medical Education held recently in London, but illness prevented his attendance. News of his death reached London while the conference was in progress.

EXAMINATIONS AND LICENSURE

BOARDS OF MEDICAL EXAMINERS

ALABAMA: *Examination.* Montgomery, June 22-24, 1954. Sec., Dr. D. G. Gill, 537 Dexter Ave., Montgomery.

COLORADO:* *Examination.* Denver, Dec. 15-16. *Final date for filing* application is Nov. 14. Executive Secretary, Miss Beulah H. Hudgens, 831 Republic Bldg., Denver 2.

DELAWARE: Dover, Jan. 12-14, 1954. Sec., Dr. Joseph S. McDaniel, 229 South State St., Dover.

FLORIDA:* *Examination.* Jacksonville, Nov. 22-24. Sec., Dr. Homer L. Pearson, 901 N.W. 17th St., Miami 36.

GUAM: The Commission on Licensure will meet whenever a candidate appears or submits his credentials. Director of Medical Services, Guam Memorial Hospital, Agana.

HAWAII: Honolulu, Jan. 11-14. *Examination.* Sec., Dr. I. L. Tilden, 1020 Kapiolani St., Honolulu.

IDAHO: Boise, Jan. 11-13, 1954. Executive Secretary, Mr. Armand L. Bird, 364 Sonna Bldg., Boise.

IOWA:* *Examination.* Des Moines, Dec. 7-9. Sec., Dr. M. A. Royal, 506 Fleming Bldg., Des Moines.

KANSAS: Topeka, Dec. 9-10. Sec., Dr. O. W. Davidson, 864 New Brotherhood Bldg., Kansas City.

KENTUCKY: *Examination.* Louisville, Dec. 7-9. Sec., Dr. Bruce Underwood, 620 S. 3rd St., Louisville.

MARYLAND: *Examination.* Baltimore, Dec. 8-11. Sec., Dr. Lewis P. Gundry, 1215 Cathedral St., Baltimore 1.

MISSISSIPPI: *Reciprocity.* Jackson, December. Assistant Secretary, Dr. R. Whitfield, Old Capitol, Jackson 113.

NEBRASKA:* *Examination.* Omaha, June 1954. Director, Mr. Husted K. Watson, 1009 State Capitol Bldg., Lincoln.

NORTH DAKOTA: *Examination.* Grand Forks, Jan. 6-9, 1954. *Reciprocity.* Grand Forks, Jan. 9. Sec., Dr. C. J. Glaspel, Grafton.

OHIO: *Examination.* Columbus, Dec. 17-19. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus 15.

OKLAHOMA:* *Examination.* Oklahoma City, June 9-10. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

PENNSYLVANIA: *Examination.* Philadelphia, January 1954. Acting Secretary, Mrs. Margaret G. Steiner, Box 911, Harrisburg.

SOUTH DAKOTA:* *Examination.* Sioux Falls, Jan. 19-20, 1954. Reciprocity can be obtained at any time between meetings of board. Executive Secretary, Mr. John C. Foster, 300 First National Bank Bldg., Sioux Falls.

TEXAS: Fort Worth, Nov. 12-14. Reciprocity applicants must be completed 30 days prior to the meeting date. Sec., Dr. M. H. Crabb, 1714 Medical Arts Bldg., Fort Worth 2.

UTAH: *Examination and Reciprocity.* Salt Lake City, Nov. 17. Director, Mr. Frank E. Lees, 314 State Capitol, Salt Lake City 1.

VERMONT: *Examination.* Burlington, Feb. 1954. Sec., Dr. P. J. Lawliss, Richford.

VIRGINIA: *Examination.* Richmond, Dec. 3-5. *Reciprocity.* Richmond, Dec. 2. Address: Board of Medical Examiners, 631 First St. S.W., Roanoke.

WISCONSIN:* *Examination and Reciprocity.* Madison, Jan. 12-14, 1954. Sec., Dr. A. G. Koehler, 46 Washington Blvd., Oshkosh.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

ALASKA: *On application.* Juneau or other towns in Territory as decided by Board. *Reciprocity.* On application. Sec., Dr. C. Earl Albrecht, Box 1931, Juneau.

OKLAHOMA: *Examination.* Oklahoma City, April 16-17. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

OREGON: *Examination.* Portland, Dec. 5. Sec., Dr. Charles D. Byrne, University of Oregon, Eugene. (Examinations during 1954 will be held in Portland on March 6, June 5, Sept. 11 and Dec. 4.)

SOUTH DAKOTA: *Examination.* Vermillion, Dec. 4-5. Sec., Dr. Gregg M. Evans, 310 E. 15th St., Yankton.

WISCONSIN: *Examination.* Milwaukee, Dec. 5. Final date for filing application is Nov 27. *Madison, April 3. Final date for filing application* is March 26. Sec., Dr. W. H. Barber, 621 Ransom St., Ripon.

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*Basic Science Certificate require

MEETINGS

AMERICAN MEDICAL ASSOCIATION: Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

1953 Clinical Meeting, St. Louis, Dec 1-4.

1954 Annual Meeting, San Francisco, June 21-25.

1954 Clinical Meeting, Miami, Florida, Nov. 30-Dec. 3.

1955 Annual Meeting, Atlantic City, N. J., June 6-10.

1955 Clinical Meeting, Boston, Nov. 29-Dec. 2.

AMERICAN ACADEMY OF DERMATOLOGY AND SYPHILOLOGY, Palmer House, Chicago, Dec. 5-10. Dr. John E. Rauschkolb, P. O. Box 6565, Cleveland 1, Secretary.

AMERICAN ACADEMY OF OBSTETRICS AND GYNECOLOGY, Netherland Plaza Hotel, Cincinnati, Dec. 14-16. Dr. C. Paul Hodgkinson, 116 South Michigan Blvd., Chicago 3, Secretary.

AMERICAN FEDERATION FOR CLINICAL RESEARCH, Eastern Section, Amphitheater, Children's Medical Center, Boston, Jan. 4. Dr. Walter Judson, Evans Memorial Hospital, Boston, Chairman.

AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY: EASTERN SECTION, Waldorf-Astoria, New York, Jan. 8. Dr. Francis W. Davison, Danville, Pa., Chairman.

ASSOCIATION FOR RESEARCH IN NERVOUS AND MENTAL DISEASES, Hotel Roosevelt, New York, Dec. 11-12. Dr. Clarence C. Hare, 710 West 168th St., New York 32, Secretary.

Inter-Society Cytology Council, Philadelphia, Nov. 19-20. Dr. Paul F. Fletcher, 634 North Grand Blvd., St. Louis 3, Secretary.

National Society for the Prevention of Blindness, New York, Dec. 18. Dr. Franklin M. Foote, 1790 Broadway, New York 19, Executive Director.

North Pacific Surgical Association, Victoria, B. C., Nov. 20-21. Dr. John A. Duncan, 509 Olive Way, Seattle, Secretary.

Radiological Society of North America, Palmer House, Chicago, Dec. 13-18. Dr. Donald S. Childs, 713 East Genesee St., Syracuse 2, N. Y., Secretary.

Regional Meetings, American College of Physicians:

- Michigan, H. H. Rackham Auditorium, Ann Arbor, Dec. 5. Dr. H. Marvin Pollard, 1313 East Ann St., Ann Arbor, Governor.
- Midwest—Ill., Ind., Iowa, Minn., Wis.—Hotel Schroeder, Milwaukee, Nov. 21. Dr Francis D. Murphy, 536 West Wisconsin Ave., Milwaukee 3, Chairman.
- North Carolina, Chapel Hill, Dec. 3. Dr. Elbert L. Persons, Duke Hospital, Durham, Governor.

Southern Surgical Association, The Homestead, Hot Springs, Va., Dec. 8-10. Dr. John C. Burch, 2112 West End Ave., Nashville 5, Tenn., Secretary.

Western Surgical Association, The Drake, Chicago, Dec. 3-5. Dr. Michael Mason, 154 East Erie St., Chicago 11, Secretary.

FOREIGN

Association of Surgeons of Great Britain and Ireland, Leeds, England, May 13-15, 1954. Dr. Henry W. S. Wright, 45 Lincoln's Inn Fields, London W.C.2, England, Honorary Secretary.

British Medical Association, Glasgow, Scotland, July 1-9, 1954. Dr. A. MacRae, B.M.A. House, Tavistock Square, London, W.C.1, England, Secretary.

Canadian Medical Association, Vancouver, B. C., Canada, June 18-22, 1954. Dr. T. C. Routley, 135 St. Clair Ave. W., Toronto 5, Ont., Canada, General Secretary.

Conference of International Union Against Tuberculosis, Madrid, Spain, Sept. 26-Oct. 2, 1954. Secretariat, Escuela de Tisiologia, Ciudad Universitaria, Madrid, Spain.

Congress of International Association for the Prevention of Blindness, New York, N. Y., U. S. A., Sept. 12-17, 1954. Professor Franceschetti, 2 Avenue Mirmot, Geneva, Switzerland, Secretary-General.

Congress of International Society of Surgery, Paris, France, May 21-22, 1954. Dr. L. Dejardin, 141, rue Belliard, Brussels, Belgium, General Secretary.

International Cancer Congress, Sao Paulo, Brazil, July 23-29, 1954. Prof. A. Prudente, 171 rua Benjamin Constante, Sao Paulo, Brazil, President.

International Conference on Thrombosis and Embolism, Basle, Switzerland, July 15-19, 1954. Dr. W. Merz, Chief Medical Officer, Gynecological Clinic, University of Basle, Basle, Switzerland, Hon. Secretary.

International Congress of Clinical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Dr. Robert A. Moore, Washington University School of Medicine, St. Louis 10, Missouri, U. S. A., Chairman, Committee on Arrangements.

International Congress on Diseases of the Chest, Barcelona, Spain, Oct. 4-8, 1954. Mr. Murray Kornfeld, 112 East Chestnut St., Chicago 11, Illinois, Executive Secretary.

International Congress on Group Psychotherapy, Toronto, Ont., Canada, Aug. 12-14, 1954. Dr. J. L. Moreno, Room 327, 101 Park Ave., New York 17, N. Y., U. S. A., Director of Organizing Committee.

International Congress of Hematology, Paris, Sept. 6-11, 1954. Dr. Jean Bernard, 86 rue d'Assas, Paris 6ᵉ, France, Secretary.

International Congress of the History of Medicine, Rome and Salerno, Italy, Sept. 13-20, 1954. For information write: Segreteria XIV Congresso Internazionale di Storia della Medicina, Instituto di Storia della Medicine, Citta Universitaria, Rome, Italy.

International Congress of Hydroclimatism and Thalassotherapy, Dubrovnik, Yugoslavia, May 8-16, 1954. Prof. C. Plavsic, Zeleni Venac 1, Belgrade, Yugoslavia, Secretary General.

International Congress of Industrial Medicine, Naples, Italy, Sept. 13-19, 1954. Professor Scipione Caccuri, Director, Institute of Industrial Medicine Policlinico, Naples, Italy, Chairman, Organizing Committee.

International Congress of Internal Medicine, Stockholm, Sweden, Sept. 15-18, 1954. Professor Anders Kristenson, Karolinska Sjukhuset, Stockholm 60, Sweden, Secretary-General.

International Congress of International College of Surgeons, Sao Paulo, Brazil, April 26-May 2, 1954. Dr. Max Thorek, 1516 Lake Shore Drive, Chicago, Illinois, U. S. A., Secretary-General.

International Congress on Mental Health, University of Toronto, Toronto, Ontario, Canada, Aug. 14-21, 1954. For information write: Executive Officer, International Congress on Mental Health, 111 St. George St., Toronto, Ontario, Canada.

International Congress of Nutrition, Amsterdam, Netherlands, Sept. 14-18, 1954. For information write: Dr. M. van Eekelen, Centraal Instituut voor Voedingsonderzoek T.N.O., 61 Catharynesingel, Utrecht, Netherlands.

International Congress on Obstetrics and Gynecology, Geneva, Switzerland, July 26-31, 1954. Dr H. de Watteville, Maternité Hôpital Cantonal, Geneva, Switzerland, President.

International Congress of Ophthalmology, University of Montreal and McGill University, Montreal, Canada, Sept. 10-11, 1954, and Waldorf-Astoria, New York, N. Y., U. S. A., Sept. 12-17, 1954. Dr. William L. Benedict, 100 First Avenue Building, Rochester, Minnesota, U. S. A., Secretary-General.

International Congress of Orthopedic Surgery and Traumatology, Berne, Switzerland, Aug. 30-Sept. 3, 1954. For information write: Professor M. Dubois, Isle-Hospital, Berne, Switzerland.

International Congress of Psychology, Montreal, Canada, June 7-12, 1954. For information write: Prof. H. S. Langfeld, International Union of Scientific Psychology, Eno Hall, Princeton University, Princeton, N. J., U. S. A.

International Congress for Psychotherapy, Zurich, Switzerland, July 21-24, 1954. Dr. H. K. Fierz, Theaterstrasse 12, Zurich 1, Switzerland, Secretary General.

International Gerontological Congress, London and Oxford, England, July 12-22, 1954. Prof. R. E. Tunbridge, General Infirmary, Department of Medicine, The University, Leeds, England, President.

International Poliomyelitis Congress, Rome, Italy, Sept. 6-10, 1954. Mr. Stanley E. Henwood, 120 Broadway, New York 5, N. Y., U. S. A., Executive Secretary.

International Society of Blood Transfusion, Paris, France, Sept. 12-19, 1954. For information write: Colonel Julliard, Societe Internationale de Transfusion Sanguine, 53 Boulevard Diderot, Paris 12ᵉ, France.

International Society for Cell Biology, Leiden, Netherlands, Sept. 2-9, 1954. Professor Peter J. Gaillard, University of Leiden, Leiden, Netherlands, Secretary.

International Society of Geographical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Professor Fred C. Roulet, Hebelstrasse 24, Basle, Switzerland, Secretary-General.

Journees Medicales, Paris, France, April 21-25, 1954. For information write: Secretariat of the Journees, 12, rue Pierre-Geofroix, Colombes (Seine) France.

Latin American Congress of Otorhinolaryngology, Caracas, Venezuela, Feb. 21-25, 1954. Dr. Victorino Marquez Reveron, Centro, Medico, Caracas, Venezuela, Secretary-General.

Pacific Science Congress, Quezon City and Manila, Philippines, Nov. 16-28. Dr. Patrocinio Valenzuela, College of Pharmacy, University of the Philippines, Quezon City, Philippines, Secretary-General.

Pan American Congress of Otorhinolaryngology and Bronchoesophagology, Mexico, D.F., Mexico, Feb. 28-March 4, 1954. Dr. Pedro Hernandez Gonzalo, 8 No. 358, Vedado, Havana, Cuba, General Secretary.

Pan American Medical Association, International Medical Cruise Congress, S. S. Nieuw Amsterdam, Jan. 6-22, 1954. Dr. Joseph J. Eller, 745 Fifth Avenue, New York 22, N. Y., U. S. A., Executive Director.

Pan-Pacific Surgical Congress, Honolulu, Hawaii, Oct. 7-18, 1954. Dr. F. J. Pinkerton, Suite 7, Young Bldg., Honolulu 13, Hawaii, Director General.

Persian Gulf Medical Society, Dhahran, Saudi Arabia, Dec. 7-8. Dr. N. J. Conan Jr., Department of Internal Medicine, Arabian American Oil Company, Dhahran, Saudi Arabia, Secretary.

Sectional Meeting, American College of Surgeons, London, England, May 17-19, 1954. Dr. Michael L. Mason, 40 East Erie St., Chicago 11, Ill., U. S. A., Secretary.

South American Congress of Angiology, Sao Paulo, Brazil, July 1954. For information write: Dr. Rubens Carlos Mayall, Rua Senador Vergueiro 73, Rio de Janeiro, Brazil, S. A.

World Congress of Cardiology, Washington, D. C., and Bethesda, Md., U. S. A., Sept. 12-17, 1954. Dr. L. W. Gorham, 44 East 23d St., New York 10, N. Y., U. S. A., Secretary-General.

World Congress of International Society for the Welfare of Cripples, The Hague, Netherlands, Sept. 13-17, 1954. For information write: D. C. Schaap, Centrale Vereniging, Apeldoorschweg 51, Arnhem, Netherlands.

World Federation of Occupational Therapists, Edinburgh, Scotland, August 17, 1954.

World Medical Association, Rome, Italy, Sept. 26-Oct. 2, 1954. Dr. Louis H. Bauer, 345 East 46th St., New York 17, N. Y., U. S. A., Secretary-General.

DEATHS

Sabin, Florence Rena ⊕ died at her home in Denver, Oct. 3, aged 81. Dr. Sabin was born in Central City, Colo., Nov. 9, 1871. She received her degree in medicine in 1900 from Johns Hopkins University School of Medicine, Baltimore, where she had the distinction of being the first woman to be admitted and graduated, and later the first woman to hold a full professorship. Dr. Sabin was also the first woman intern at Johns Hopkins Hospital in 1900-1901; she then joined the faculty as assistant in anatomy, subsequently becoming an associate and associate professor and professor of histology. She was, in 1925, the first woman to be invited to join the staff of the Rockefeller Institute for Medical Research in New York and served until 1938, when she became an emeritus member. She then returned to Denver and later became a chairman of the health section of the state's post-war planning committee, head of the state subcommittee on health, and city manager of health and charities for Denver. She was the first woman to become an honorary member of the New York Academy of Science and a member of the American Academy of Sciences. Dr. Sabin was president of the board of the Finney-Howell Research Foundation, past president of the Western Branch of the American Public Health Association, a member of the American Association of Anatomists, of which she was first woman vice-president, 1908-1909, and the first woman president, 1924-1926, American Association of Physiologists, the Society of Experimental Biology and Medicine, serving as councilor in 1932, and the National Tuberculosis Association. She was honorary life-member of the Harvey Society, American Association for the Advancement of Science, the Colorado State Medical Society, and American Association of University Women and was elected a director of the American Society for the Control of Cancer. In 1943 she was made an honorary national commander of the Women's Field Army. Dr. Sabin was the winner of the *Pictorial Review* 1928 achievement award of $5,000, for contributions to medical science. In 1932 she received the first national achievement award conferred by the Chi Omega Sorority and in 1935 was awarded the $5,000 M. Carey Thomas prize by Bryn Mawr (Pa.) College. In recent years she received the Trudeau medal of the National Tuberculosis Association for her "extensive studies of the physiologic activities of the chemical fractions of the tubercle bacillus," the first Jane Addams medal for distinguished service by an American woman, a Lasker Foundation award for her achievements as leading spirit in public health programs in Colorado, the American Woman's Association medal for eminent achievement, the Elizabeth Blackwell citation of the New York Infirmary, and an American Brotherhood Arts and Sciences citation. She was awarded the General Rose Memorial Hospital's 1951 medal for distinguished public service. In 1951 she was honored at ceremonies at which the new cancer wing at the University of Colorado Medical Center was dedicated as the Florence R. Sabin Building for Research in Cellular Biology. On this occasion, her colleagues honored her at a dinner and presented her with a bound volume of felicitations from all parts of the country. Dr. Sabin had honorary degrees from many universities; she wrote extensively for scientific publications, was on the editorial board of the *Anatomical Record,* and was the author of "An Atlas of the Medulla and Mid-Brain."

Siegler, Samuel Lewis ⊕ Brooklyn; born in Brooklyn Nov. 11, 1894; Fordham University School of Medicine, New York, 1918; specialist certified by the American Board of Obstetrics and Gynecology; member of the Endocrine Society; fellow of the American College of Surgeons, American Society for the Study of Sterility, British Society for the Study of Sterility, Brooklyn Gynecological Society and the New York Academy of Medicine; past president of the East New York Medical Society; vice-president of the New York Society for the Study of Sterility; honorary fellow of the Argentina Society for Study of Sterility; in January, 1945, at the annual meeting of the Planned Parenthood Federation of America he was cited for his volume on "Human Fertility in the Female" as a contribution to the diagnosis and treatment of infertility in women; this book was translated into Spanish, French, and Italian; attending obstetrician and gynecologist, Brooklyn Women's Hospital; director of obstetrics and gynecology, Unity Hospital; assistant attending in obstetrics and gynecology, Greenpoint Hospital; associate staff, Jewish Hospital; produced the motion pictures, "Sterility, Its Causes, Investigation and Treatment" and "Ovulation with Pregnant Mare's Serum"; served during World War I; on the editorial board of *Fertility and Sterility*; died in the Long Island College Hospital Sept. 15, aged 58, of encephalomyelitis.

Thompson, Ira Fay ⊕ Beloit, Wis.; born in Lawrence, Ill., Oct. 1, 1877; Bennett College of Eclectic Medicine and Surgery, Chicago, 1900; member of the American Public Health Association; elected to the board of directors in 1937 of the Wisconsin Anti-Tuberculosis Association of which he was president from 1945 to 1948, and a member of the senior council at the time of his death; served as vice-president and president of the state board of health; for several years worked with the state board of health, serving as deputy state health officer from 1916 to 1919, as organizer and director of the bureau of venereal diseases from 1919 to 1922, and as deputy and later acting health commissioner of the Milwaukee health department from 1922 to 1925; for seven years worked with the Milbank Health Foundation as assistant to the health commissioner in Syracuse, N. Y.; on his return to Wisconsin in 1932, served as Racine health commissioner until 1945; at one time on the faculty of Marquette University School of Medicine; died July 5, aged 75, of cerebral hemorrhage.

Taquino, George James ⊕ New Orleans; born in New Orleans Oct. 19, 1884; Medical Department of Tulane University of Louisiana, New Orleans, 1911; specialist certified by the American Board of Otolaryngology; professor of otorhinolaryngology and head of the department at Louisiana State University School of Medicine; served during World War I; member of the Southeastern Surgical Congress, American Academy of Ophthalmology and Otolaryngology, American Laryngological, Rhinological and Otological Society, and the American Broncho-Esophagological Association; fellow of the International College of Surgeons and the American College of Surgeons; consulting bronchoscopist, U. S. Public Health Service; received the honorary doctor of science degree from Loyola University of the South in 1942; affiliated with Charity Hospital of Louisiana, Touro Infirmary and Hotel Dieu, Sister's Hospital, where he died Aug. 29, aged 68, of dissecting aneurysm of the aorta.

Soper, Horace Wendell ⊕ St. Louis; born in Hillsboro, Ill., in 1867; Washington University School of Medicine, St. Louis, 1894; specialist certified by the American Board of Internal Medicine; an Affiliate Fellow of the American Medical Association; member of the American Gastro-Enterological Association; fellow of the American College of Physicians; past president of the Missouri chapter of the National Society for the Advancement of Gastro-Enterology; past president of the National Gastro-Enterological Association; secretary of the Section on Gastro-Enterology and Proctology of the American Medical Association from 1917 to 1920 and chairman, 1921-1922; consultant, De Paul and St. Luke's hospitals, co-founder of the Soper Mills Clinic; author of "Clinical Gastroenterology"; died in Barnes Hospital Sept. 28, aged 86, of heart disease.

De Lamater, Hasbrouck ⊕ St. Joseph, Mo.; born Jan. 12, 1870; Medical College of Alabama, Mobile, 1901; an Associate Fellow of the American Medical Association; past president of the Buchanan County Medical Society; director of

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⊕ Indicates Member of the American Medical Association.

hygiene with city public schools from 1916 until his retirement in 1942 when he received the William A. Howe award from the American School Health Association for his outstanding service in school health work; fellow of the American Public Health Association; a charter member of the American Association of School Physicians; affiliated with St. Joseph's Hospital and the Missouri Methodist Hospital, where he died Sept. 24, aged 83, of cardiac decompensation.

Murphy, John Francis ⊕ Providence, R. I.; born in Woonsocket, R. I., Jan. 22, 1901; University of Pennsylvania School of Medicine, Philadelphia, 1927; specialist certified by the American Board of Obstetrics and Gynecology; member of the New England Obstetrical and Gynecological Society; instructor in obstetrics at Harvard Medical School in Boston; affiliated with Rhode Island, Charles V. Chapin, and Providence Lying-In hospitals; on the courtesy staffs of the Memorial Hospital, Pawtucket, and the Roger Williams and St. Joseph's hospitals; died Aug. 30, aged 52, of hypertensive cardiovascular disease.

Smith, Clarence Austin ⊕ Seattle; born in Derby, Conn., Jan. 24, 1861; College of Physicians and Surgeons, medical department of Columbia College, New York, 1887; an Associate Fellow of the American Medical Association; fellow of the American College of Physicians; president of the King County Medical Society in 1898 and the Washington State Medical Association in 1909; from 1896 to 1898 a member of the Washington Board of Medical Examiners; formerly city health officer; editor emeritus of *Northwest Medicine,* which he helped to found in 1903 when he became editor; died Sept. 10, aged 92, of chronic myocarditis.

Newberger, Charles ⊕ Chicago; born Oct. 13, 1883; Rush Medical College, Chicago, 1909; assistant professor of obstetrics and gynecology emeritus at the University of Illinois College of Medicine; specialist certified by the American Board of Obstetrics and Gynecology; member of the Central Association of Obstetricians and Gynecologists; served as consultant for the maternity division, maternal and child health, Illinois State Department of Public Health; senior attending obstetrician at Mount Sinai Hospital, where he died Sept. 25, aged 69, of acute myocardial infarction.

Aurin, Emil Carl, Fort Ogden, Fla.; Eclectic Medical Institute, Cincinnati, 1897; died Aug. 18, aged 77, probably of coronary occlusion.

Baldwin, William Sherman, East St. Louis, Ill.; Jenner Medical College, Chicago, 1907; died in St. Mary's Infirmary in St. Louis Aug. 1, aged 77.

Bancroft, George Raymond Jr. ⊕ Kennebunk Port, Maine; Tufts College Medical School, Boston, 1944; certified by the National Board of Medical Examiners; died Aug. 14, aged 33, of coronary occlusion.

Bellehumeur, David Stanislaus ⊕ St. Petersburg, Fla.; Laval University Medical Faculty, Montreal, Canada, 1896; member of the Massachusetts Medical Society; died in Mound Park Hospital Aug. 20, aged 72, of fracture of the right shoulder and the right hip received in a fall.

Bennet, Pearl R., Terre Haute, Ind.; Eclectic Medical Institute, Cincinnati, 1905; died in Danville, Ill., July 4, aged 75.

Bitten, Robert Mooney ⊕ Jersey City, N. J.; College of Physicians and Surgeons, Boston, 1929; Université Catholique de Louvain Faculté de Médecine, Belgium, 1930; member of the American Society of Anesthesiologists, Inc.; affiliated with Greenville and Margaret Hague Maternity hospitals; died in the Medical Center Sept. 16, aged 56, of metastatic carcinoma of the lumbar spine.

Black, Glenn Raymond ⊕ Franklin Township, Ohio; Hahnemann Medical College and Hospital of Philadelphia, 1949; died Aug. 31, aged 31, of accidental drowning.

Blechman, Elihu David, Miami Beach, Fla.; University of Pennsylvania School of Medicine, Philadelphia, 1927; died Aug. 27, aged 50, of coronary thrombosis.

Bond, Van H. ⊕ Hornersville, Mo.; Missouri Medical College, St. Louis, 1893; died in the Dunklin Memorial Hospital in Kennett, Sept. 4, aged 83.

Bryans, Charles Iverson ⊕ Augusta, Ga.; University of Georgia School of Medicine, Augusta, 1904; professor emeritus of clinical ophthalmology and otolaryngology at his alma mater, where he was a member of the faculty since 1905; for many years affiliated with University and Wilhenford hospitals; died July 18, aged 70, of cerebral thrombosis.

Burbridge, Leonidas T., New Orleans; Meharry Medical College, Nashville, Tenn., 1893; died Sept. 14, aged 83.

Cameron, Donald Archibald, Royal Oak, Mich.; Detroit College of Medicine, 1915; served during World War I; died in Charlevoix Sept. 6, aged 64, of chronic nephritis and coronary thrombosis.

Challed, Don Sheridan ⊕ Cedar Rapids, Iowa; State University of Iowa College of Medicine, Iowa City, 1928; member of the American Society of Anesthesiologists; past president of the Linn County Medical Society; served during World War II; formerly health officer; affiliated with Mercy Hospital and St. Luke's Methodist Hospital, where he died Sept. 14, aged 48, of portal cirrhosis.

Cobb, Benjamin Elden, Unionville, Mo.; St. Louis University School of Medicine, 1912; died Aug. 25, aged 73, of uremia and chronic myocarditis.

Comerer, Jacob Alvin, Allentown, Pa.; Baltimore Medical College, 1897; died Sept. 5, aged 85, of arteriosclerosis.

Crawford, James Howard ⊕ Columbiana, Ala.; Tulane University of Louisiana School of Medicine, New Orleans, 1921; in 1930 was chosen Shelby County's "Man of the Year"; died in Valdosta, Ga., Sept. 19, aged 59, of coronary occlusion.

Criscillo, Serafino Lewis ⊕ New York City; New York Medical College, Flower and Fifth Avenue Hospitals, New York, 1931; died Aug. 15, aged 49, of left ventricular failure.

Derbyshire, Albert L. ⊕ San Francisco; Medical College of Indiana, Indianapolis, 1886; served as acting assistant surgeon in the U. S. Public Health Service Reserve; died Sept. 5, aged 102, of bronchopneumonia and arteriosclerosis.

Duncan, Marion W., Centerton, Ark.; Memphis (Tenn.) Hospital Medical College, 1899; died Sept. 8, aged 84, of congestive heart disease.

Einhorn, Max ⊕ New York City; Friedrich-Wilhelms-Universität Medizinische Fakultät, Berlin, Germany, 1884; an Associate Fellow of the American Medical Association; member of the American Association for Thoracic Surgery; former professor of medicine at the New York Post-Graduate Medical School and Hospital; consultant at the Lenox Hill Hospital, where he died Sept. 25, aged 91.

Fleming, Charles LeRoy ⊕ Penns Grove, N. J.; Hahnemann Medical College and Hospital of Philadelphia, 1906; consulting member of the staff of the Salem County Memorial Hospital in Salem; an official of the Penns Grove National Bank and Trust Company, where he served on the board of directors for several years; died Sept. 13, aged 68, of cerebral hemorrhage.

Fraden, William, New York City; University and Bellevue Hospital Medical College, New York, 1923; served during World War II; died in August, aged 52.

Gates, Ira Norman ⊕ Seattle; University of Vermont College of Medicine, Burlington, 1906; an Associate Fellow of the American Medical Association; affiliated with Virginia Mason Hospital, where he died Sept. 5, aged 76.

Gilmore, Howard Manning ⊕ Columbus, Ohio; Ohio State University College of Medicine, Columbus, 1921; member of the American Society of Anesthesiologists; on the staff of Mount Carmel Hospital, where he died Sept. 11, aged 58.

Gould, Arthur L. ⊕ Freeport, Maine; Medical School of Maine, Portland, 1905; health officer; affiliated with Brunswick (Maine) Hospital; drowned in Luther Pond near Jackman July 3, aged 70, when he fell from a canoe while fishing.

Gregory, Lorenzo Theophilus, Kershaw, S. C.; Medical College of the State of South Carolina, Charleston, 1896; served as mayor and as chairman of the school board; director of the Bank of Kershaw and the Springs Cotton Mills; died July 28, aged 83, of chronic emphysema of the lungs.

Henry, Frank Charles, Verona, N. J.; University of Pennsylvania Department of Medicine, Philadelphia, 1894; formerly coroner of Middlesex County, and New Jersey Assemblyman; served as health officer of Perth Amboy; practiced in Perth Amboy, where he was affiliated with Perth Amboy Hospital, where he died Aug. 31, aged 82, of carcinoma of the sigmoid.

Hewitt, John Michael ⊕ Major, U. S. Army, retired, Los Angeles; Niagara University Medical Department, Buffalo, 1889; formerly professor of military science and tactics at Cornell University Medical School in New York; served during World War I; entered the medical corps of the U. S. Army as a first lieutenant in 1917 and retired Sept. 30, 1931, by operation of law; died July 26, aged 85, of carcinoma of the esophagus.

Howland, Charles Francis, Westfield, N. J.; Fordham University School of Medicine, New York, 1916; served in France with the American Expeditionary Forces during World War I; died Sept. 22, aged 79.

Johnston, Harold Alvah, Ingomar, Pa.; University of Pittsburgh School of Medicine, 1931; died in the Allegheny General Hospital, Pittsburgh, July 28, aged 46.

Johnstone, Charles William ⊕ Du Bois, Pa.; College of Physicians and Surgeons, Baltimore, 1906; affiliated with Du Bois and Maple Avenue hospitals; died July 30, aged 72, of carcinoma of the lung.

Jones, Mortimer Dunham, Ridgewood, N. J.; Columbia University College of Physicians and Surgeons, New York, 1900; medical superintendent of the Kings County Hospital in Brooklyn from 1910 to 1929, when he became medical superintendent of the New York City Hospital, Welfare Island; died Sept. 21, aged 76, of coronary occlusion.

Kalayjian, Dikran Sarkis ⊕ Detroit; Rush Medical College, Chicago, 1902; an Associate Fellow of the American Medical Association; member of the South Dakota State Medical Association; died Aug. 10, aged 86, of carcinoma of the colon.

Katzman, George Manual ⊕ Philadelphia; University of Illinois College of Medicine, Chicago, 1926; affiliated with the regional office of the Veterans Administration; died Aug. 30, aged 52, of coronary insufficiency.

Keeling, Irene Cutter ⊕ Kansas City, Mo.; University of Kansas School of Medicine, Kansas City, Kan., 1929; affiliated with University of Kansas Medical Center, Kansas City, Kan., and Kansas City General Hospital; died in Research Hospital, Sept. 29, aged 54, of ulcerative ileocolitis.

Kimmelman, Simon ⊕ Philadelphia; Jefferson Medical College of Philadelphia, 1902; died Sept. 26, aged 78, of coronary occlusion.

Knapp, Charles Whittemore ⊕ Newtown, Conn.; Columbia University College of Physicians and Surgeons, New York, 1912; formerly on the faculty of his alma mater; served overseas during World War I; formerly practiced in Greenwich, Conn., where he was chairman of the board of health, on the staff of St. Luke's Convalescent Hospital and Greenwich Hospital, where he was chief of staff and where he died Sept. 14, aged 68, of pulmonary edema.

Laslie, Carney Graham ⊕ Montgomery, Ala.; College of Physicians and Surgeons, Baltimore, 1903; died Sept. 14, aged 75, of coronary thrombosis.

Levy, Erich L. ⊕ New York City; Friedrich-Wilhelms Universität Medizinische Fakultät, Berlin, Germany, 1927; affiliated with Jewish Memorial Hospital and Medical Arts Hospital in New York City and Queens General Hospital in Jamaica, where he died Sept. 9, aged 52.

Lynch, Richard Alphonsus, Boston; Middlesex College of Medicine and Surgery, Cambridge, Mass., 1919; physician for the Shubert theatres for many years and composer of several songs; died Sept. 9, aged 63.

McBryde, Malcolm Hugh, Reidsville, N. C.; University College of Medicine, Richmond, 1901; died in the Annie Penn Memorial Hospital July 14, aged 75, of cerebral thrombosis.

McCord, Ollie Hagan ⊕ Woodruff, S. C.; Atlanta School of Medicine, 1910; died July 25, aged 67, of arteriosclerosis.

MacKenzie, Oliver Reynolds ⊕ Walled Lake, Mich.; Marquette University School of Medicine, Milwaukee, 1935; died Sept. 17, aged 44, of injuries received in an automobile accident.

Malloch, Thomas Archibald, White Plains, N. Y.; McGill University Faculty of Medicine, Montreal, 1913; M.R.C.P., London, 1919; F.R.C.P., London, 1930; served with the Canadian Army during World War I; for many years librarian of the New York Academy of Medicine; author and editor of several books; died in Tarrytown (N. Y.) Hospital Sept. 19, aged 66, of myocardial infarction and coronary thrombosis.

Martin, William Riley, New Bern, N. C.; Howard University College of Medicine, Washington, D. C., 1925; died Aug. 22, aged 56, of coronary thrombosis.

Maxwell, George Madison ⊕ Roanoke, Va.; North Carolina Medical College, Davidson, 1901; Jefferson Medical College of Philadelphia, 1906; fellow of the International College of Surgeons; served during World Wars I and II; died in the Veterans Administration Hospital Sept. 24, aged 77.

Meigs, Benjamin Lyle, Long Beach, Calif.; State University of Iowa College of Medicine, Iowa City, 1902; served during World War I; formerly affiliated with Long Beach Community and Seaside Memorial hospitals; died in the Harriman-Jones Clinic Hospital Sept. 15, aged 74, of carcinoma of the colon.

Meredith, Charles James ⊕ Valley City, N. D.; University of Manitoba Faculty of Medicine, Edmonton, Alberta, Canada, 1921; fellow of the American College of Surgeons; affiliated with Mercy Hospital; died Sept. 20, aged 58.

Miles, William Clinton ⊕ Griffin, Ga.; Atlanta College of Physicians and Surgeons, 1908; past president of the Spalding County Medical Society; served during World War I; died July 12, aged 71, of arteriosclerosis.

Miller, Elmer Manton ⊕ Woodsville, N. H.; Baltimore Medical College, 1898; died July 1, aged 80, of coronary sclerosis.

Milliken, Howard Augustus ⊕ Hallowell, Maine; Medical School of Maine, Portland, 1899; died in the Augusta General Hospital in Augusta, recently, aged 79, of ruptured esophageal varices.

Minahan, Thomas, Niles, Ohio; Cleveland Homeopathic Medical College, 1898; died Sept. 6, aged 91, of hypostatic pneumonia.

Moosey, Marye Maxine, Tacoma, Wash.; University of Pittsburgh School of Medicine, 1951; resident at St. Joseph's Hospital; died July 13, aged 36, of injuries received in an automobile accident.

Moxey, Albert Frankish ⊕ Havertown, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1906; for many years practiced in Philadelphia, where he was supervisor of the public schools and served on the staffs of the Temple University, Memorial and Episcopal hospitals; affiliated with the Hospital of the University of Pennsylvania in Philadelphia, where he died Sept. 20, aged 69, of leukemia.

DIED WHILE IN MILITARY SERVICE

McCaslin, Hugh Towles, Cincinnati; Columbia University College of Physicians and Surgeons, New York, 1952; interned at Cincinnati General Hospital; first lieutenant in the medical corps of the U. S. Air Force; killed in an automobile accident at Randolph Air Field Base, Texas, Sept. 1, aged 25.

GOVERNMENT SERVICES

MEDICAL AND HEALTH BUDGETS OF FEDERAL AGENCIES

The federal government operates or participates in more than 60 health, medical, and related programs scattered among at least 19 different departments, independent agencies, or commissions. The cost is in excess of $1,775,882,197 this fiscal year. A breakdown of the budgets follows:

Department of Health, Education and Welfare ($340,553,000 Total)

Office of Vocational Rehabilitation—$23,655,500

The bulk of this appropriation will be apportioned to states having programs furnishing handicapped persons with medical examinations, surgical and therapeutic treatment, hospitalization, prosthetic appliances, occupational tools and aids, vocational training, and funds for maintenance. The states are required to match these federal grants on a dollar-for-dollar basis.

Food and Drug Administration—$6,250,000

This appropriation is used to enforce laws designed to protect the consuming public against adulteration and misbranding of foods, drugs, and cosmetics.

Children's Bureau—$31,525,000

The Children's Bureau operating under the Social Security Administration makes this money available to states having programs for crippled children, maternal and child health and welfare services. The states are by law required to match these grants.

Bureau of Public Assistance (Medical and Health Payments)—Approximately $50,000,000.

This money will be used either for direct payments to physicians and hospitals and for medical supplies or to the beneficiaries themselves for payment for such services and supplies: (1) old age assistance, (2) blind, (3) needy permanently and totally disabled, and (4) dependent children. The bureau operates under the Social Security Administration. By law the states support approximately 40% of the total cost of these programs.

(Note.—The following 13 medical programs operate under the U. S. Public Health Service.)

Office of Surgeon General, Public Health Service—$2,900,000

This appropriation covers administrative expenses of the Office of the Surgeon General and the cost of the following programs: (1) evaluation of public health needs; (2) development and coordination of nursing resources; (3) international health activities wherein the U. S. P. H. S. acts for Department of State, Foreign Operations Administration, and other government agencies; and (4) general duty training.

Tuberculosis Control—$6,000,000

Grants to states providing diagnostic and treatment clinics, mass casefinding, and follow-up service total $4,275,000 of this appropriation. These grants must be matched by a minimum of one state dollar for each two federal dollars. The remainder of the appropriation finances direct activities of the Public Health Service for such programs as mass x-ray surveys, studies, demonstrations, drug evaluation, and BCG vaccinations.

Venereal Disease Control—$5,000,000

Grants to states having programs of venereal disease detection, treatment, and control amount to $1,976,500. A portion of this amount must be matched by a minimum of one state dollar for each two federal dollars. The federal government also furnishes technical assistance amounting to $2,268,500, mostly to pay federal employees assigned to state programs. The balance finances direct activities of the U. S. P. H. S. for mass examinations, drug evaluation, studies, and demonstrations.

General Assistance to States—$13,250,000

Grants to states must be matched on the basis of one state dollar for each two federal dollars.

Communicable Disease Control (Communicable Disease Center, Atlanta, Ga.)—*$5,000,000*

The Communicable Disease Center carries on programs of study in epidemiology, laboratory diagnostic services, and special projects in assistance to states.

Engineering, Sanitation, and Industrial Hygiene—$3,162,500

Five programs are supported by this appropriation: (1) water supply and water pollution control through several river basin offices that work with state and interstate agency officials, $903,500; (2) study of effects of radioactive substances on individuals, partially in cooperation with the Atomic Energy Commission, $275,000; (3) general sanitation, consultant services with states concerning milk and restaurant inspection, garbage disposal, food handling by interstate carriers, etc., $799,000; (4) consultation with states and studies of health hazards in manufacturing, mining, etc., $550,000; and (5) environmental research activities of Cincinnati office, $547,500. The balance is for administrative expenses.

Alaska—Disease and Sanitation Investigations and Control—$1,082,000

This appropriation will be divided equally between several grants to the territory and the financing of the Arctic Health Research Center at Anchorage.

Hospitals and Medical Care—$33,100,000

These funds are used for operational cost and maintenance of hospitals and health services in caring for American seamen, Coast Guard and Public Health Service personnel and their dependents, federal employees injured at work, leprosy patients, and narcotic addicts.

Foreign Quarantine Service—$2,900,000

This service operates about 250 quarantine stations on borders of the United States. It also operates about 25 medical examination stations on foreign soil for the examination of aliens seeking visas to enter the United States. Inspections are made of all seagoing vessels and aircraft entering the United States.

National Institutes of Health (total)—*$71,153,000*
  National Cancer Institute—$20,237,000
  Mental Health Institute—$12,095,000
  National Heart Institute—$15,168,000
  Dental Health Institute—$1,740,000
  Microbiological Institute—$5,738,000
  Institute For Neurological Diseases & Blindness—$4,500,000
  Institute of Arthritis & Metabolic Diseases—$7,000,000
  General Funds—$4,675,000

Hospital Construction Grants—Obligational Cash—$65,000,000

This appropriation will assist the financing of *new* construction under the Hill-Burton Act.

Grants for Hospital Construction — Liquidational Cash—$19,700,000

This appropriation is used to liquidate previously authorized construction now in various stages of completion.

Hospital Construction Administrative Expenses—$875,000

This appropriation is used for salaries and expenses of the hospital construction program at the federal level.

Veterans Administration—($747,415,264 Total)

Medical, Hospital and Domiciliary Administration—$7,757,900

This total covers expenses of administration of the Department of Medicine and Surgery in the central office and the six area medical offices.

Research—Approximately $5,500,000

The Veterans Administration conducts research by physicians and other scientists in such fields as radioactive medicine, with most of the work done in laboratories located within VA hospitals.

New Construction and Contract Liquidation—$38,685,664

Included in this figure is $21,185,664 to liquidate contracts for existing hospital construction so as to place this program on a pay-as-you-go basis. Another $17,500,000 is for planning and designing 1000-bed neuropsychiatric hospitals at San Francisco and Topeka, Kan., a 250-bed addition to the Houston VA hospital, and to start on construction of ancillary buildings at the three cities.

Supply Depot Operations—Approximately $1,350,000

Contract Hospitalization—$20,583,100

Non-VA hospitals, including federal, state, and private, at the end of the fiscal year were caring for 5,866 veterans on a contract basis. The largest single category was psychotic patients (3,084).

Domiciliary Care—$24,248,200

This total provides care for about 17,000 veterans who are incapacitated to the point of being unemployable but not in need of full hospital care. The agency operates 17 domiciliary facilities, 14 in conjunction with VA hospitals.

Outpatient Care—$92,677,900

Of this figure, about $7,000,000 is paid to physicians and $23,000,000 to dentists under the home-town care program. It calls for fees to doctors designated by local or state societies for services to veterans. The remaining $62,000,000 is for VA's outpatient care program in clinics.

Inpatient Care—$555,000,000

This covers inpatient care in 163 VA hospitals and provides an authorized 114,000 beds daily. Patients being treated for diseases or disabilities were as follows: 35.6% service-connected, 63.8% non-service-connected, and 0.6% nonveteran cases.

Medical Education and Training—$1,300,000

The VA operates training programs for physicians and other VA personnel in both the medical specialties and auxiliary services.

Capital Expansion—$312,500

This amount is available for expanding or altering about 100 VA clinics, mostly located in regional offices.

Department of Defense—($533,311,000 Total)

Army Medical Services—Approximately $238,994,000

This total is broken down by the Army as follows: About $84,000,000 for salaries of military personnel, including doctors in uniform; $76,975,000 for supplies and equipment; $62,530,000 for civilian personnel (salaries of physicians, dentists, nurses, technicians, etc.); and $15,489,000 for research, training, and other miscellaneous items.

Naval Medical Services—Approximately $161,429,000

The Navy's budget is broken down as follows: about $78,000,000 for salaries of military medical personnel; $36,529,000 for supplies and equipment; $28,730,000 for civilian medical personnel; and $18,170,000 for research, training, and other expenses.

Air Force Medical Services—Approximately $132,801,000

Total spending this year is divided about as follows: About $87,000,000 for salaries of military medical personnel; $18,874,000 for civilian medical personnel; and $26,927,000 for supplies, equipment, research, and other expenses.

Office of Assistant Secretary of Defense (Health and Medical)—Approximately $87,000

This figure covers salaries, travel, and administration for staff and consultant personnel.

Department of State—($14,127,733 Total)

World Health Organization—$2,993,400

The United States contribution for this year represents 33⅓% of WHO's total budget. Programmed spending of all available WHO funds, including those from the United States, is broken down as follows: Administration and salaries, 41%; advisory services to governments (consultants), 35.6%; contributions to regional offices for field programs, 13.6%; expenses of organization meetings, 3.8%; fact-gathering and administering international sanitary regulations, 3.8%; and expenses of expert committees studying various diseases, 2.2%.

Pan-American Sanitary Bureau—Approximately $1,320,000

The Pan-American Sanitary Bureau, the regional arm of WHO, has a budget for this calendar year of $2,031,800, of which the United States contributes 66%.

International Children's Emergency Fund—$9,814,333

The United States share of the Fund is about 60% of the total budget of about $16,000,000. The fund has allocated money for the current year as follows: Maternal and child welfare services and training, 37.8%; mass health programs to combat communicable diseases, 25.8%; child nutrition, including long-range feeding and milk conservation, 21.2%; and emergency feeding in disasters, 15.2%.

Department of Labor—($8,960,000 Total)

Bureau of Employees' Compensation—Approximately $8,500,000

This activity, covering specified federal employees and beneficiaries, corresponds to the Workmen's Compensation Agencies in the states. The total beneficiary coverage is currently estimated at 2,300,000. Benefits include payments of compensation for disability and death, the furnishing of medical and hospital services and supplies, treatment, and funeral and burial expenses.

Health and Safety Program—Approximately $460,000

The Bureau of Labor Standards within the Department of Labor has available $700,000 for its activities. From this total, about $400,000 will be spent for the promotion of industrial safety. An additional $60,000 will be used in programs for re-employment of the physically handicapped.

Foreign Operations Administration—($24,500,000 Total)

Technical Assistance Programs—$24,500,000

Money is given backward countries for training and demonstrations leading to setting up of national and local health services.

Department of Interior—($27,258,600 Total)

Bureau of Indian Affairs—$21,400,000

This money is used for operation of 59 Indian Bureau hospitals, sanitariums, and clinics; contract hospitalization; preventive and curative services, such as medical and dental field clinics; practical nurse training; and administration and salaries.

Bureau of Mines—$5,060,000

This money is spent for mine inspection and investigations, investigation of accidents and rescue work, and explosive testing and research.

Alaskan Mental Health Program—$798,600.

This item provides contract hospitalization in the United States for Alaskan whites and Indians judged insane.

Department of Commerce—($621,000 Total)

Bureau of Standards—Approximately $300,000

Tests are being made on such things as hearing aid batteries, substitutes for blood plasma, automatic blood pressure recorder, heart pump, and artificial kidney.

Civil Aeronautics Administration—$321,000

This item is for salaries and administrative expenses in carrying out the medical portion of the authority's flight safety program.

Department of Treasury—($2,790,000 Total)

Bureau of Narcotics—$2,790,000

The bureau's role is enforcement of the narcotic laws and the suppression of illegal traffic in drugs.

Department of Justice—($1,326,000 Total)

Bureau of Prisons—$1,326,000

This figure is for payments to Public Health Service for all medical and dental services for some 18,000 prisoners in 27 federal penal institutions.

Independent Offices—($68,019,600 Total)

National Science Foundation—$8,000,000

The foundation initiates and supports basic scientific research, evaluates research of governmental agencies, and correlates research programs of others. It awards scholarships and graduate fellowships in the sciences and fosters exchange of scientific information among scientists of the United States and foreign countries.

Federal Civil Defense Administration—Approximately $26,650,000

This money is divided into $22,500,000 for federal stockpiling; $3,900,000 for equal matching funds to states for stockpiling of medical items; and $250,000 for operations.

Atomic Energy Commission (Medical)—Approximately $26,565,000

This money will go for research and for vocational and special training, including fellowships.

Health Resources Advisory Committee—Approximately $91,000

This committee advises the director of the Office of Defense Mobilization on those health resource problems concerning medical manpower and blood.

National Advisory Committee to Selective Service—$265,000

This appropriation covers administration and salaries for committee headquarters and 51 state offices.

Panama Canal Zone (Medical)—$5,448,600

The Panama Canal Zone Government operates four hospitals, having a total capacity of approximately 1,400 beds. It also operates six outpatient medical clinics, two outpatient dental clinics, one school hygiene unit, a visiting nurse service, a quarantine service, a veterinary service, a sanitation and insect control program, and two large city health departments.

Federal Trade Commission (Medical)—Approximately $1,000,000

Miscellaneous—($7,000,000 Total)

Commission on Intergovernmental Relations—$500,000

This commission investigates all relationships between the federal government and state and local governmental units.

Commission on Organization of the Executive Branch of the Government—$500,000

This commission, under the chairmanship of Herbert Hoover, has until May 31, 1955, to complete a study of operations of the Executive Department, with a view toward effecting economies and promoting efficiency.

Federal Employees Health Programs—Approximately $6,000,000

The 79th Congress authorized the heads of federal agencies to provide health services designed to minimize illness and help United States employees to remain on the job. Clinics are established and maintained in federal agencies wherever there are large concentrations of employees.

ARMY

Dr. Bayne-Jones Receives "Super-Grade" in Army Medical Service.—Promotion ceremonies for Dr. Stanhope Bayne-Jones, technical director of research, Medical Research and Development Board, were held in the Office of the Surgeon General on Sept. 28. The promotion to grade GS-17 came as the result of a redistribution of the so-called super grade jobs from the Department of the Army. Dr. Bayne-Jones is the first to achieve a position of this high stature in the history of the Army Medical Service. As expert consultant to the chairman of the Army Medical Research and Development Board, he is responsible for insuring close coordination between the Army's medical research effort, similar programs sponsored by other federal agencies, and 115 cooperating civilian institutions.

During World War II, Dr. Bayne-Jones served in the Office of the Surgeon General as deputy chief of the preventive medicine service, director of the U. S. Typhus Commission and administrator of the Army Epidemiology Board. He was a brigadier general in the medical corps reserve, having been affiliated with the Army reserve program since 1915. After World War II and prior to his current assignment, he served as president of the joint administrative board of the New York Hospital-Cornell Medical Center in New York. In World War I, he served with both the British and the American armies, and after the war was the sanitary inspector for the Army of Occupation in Germany. Dr. Bayne-Jones has been awarded the Distinguished Service medal, Silver Star (two oak leaf clusters), the U. S. Typhus Commission medal, the Military Cross, Order of the British Empire, and the French Croix de Guerre, with bronze star.

Personal.—Capt. Joseph E. Molloy, of Chicago, has accepted a Regular Army commission in the Medical Corps at Brooke Army Medical Center, where he is on duty in the orthopedic service.

PUBLIC HEALTH SERVICE

Regular Corps Examination for Medical Officers.—A competitive examination for appointment of medical officers to the regular corps of the United States Public Health Service will be held on Feb. 2-4, 1954, at a number of points throughout the United States. Applications must be received no later than Dec. 24, 1953. The regular corps is a commissioned officer corps of members of various medical and scientific professions, appointed in appropriate categories, such as medicine, dentistry, nursing, engineering, and pharmacy. Appointments will be made in the grades of assistant surgeon and senior assistant surgeon. All commissioned officers are subject to change of station and assignment as necessitated by the needs of the service. Appointments are permanent and provide opportunities to qualified physicians for a career in clinical medicine, research, and public health.

The requirements for both appointments are United States citizenship, at least 21 years of age, and graduation from a recognized school of medicine. In addition, the assistant surgeon must have at least seven years of collegiate and professional training and appropriate experience, and the senior assistant surgeon must have at least 10 years of collegiate and professional training and appropriate experience.

Entrance pay for an assistant surgeon with dependents is $6,017 per annum; for senior assistant surgeon with dependents, $6,918. These figures include the $1,200 annual additional pay received by medical officers as well as subsistence and rental allowance. Provisions are made for promotion at regular intervals up to and including the grade of senior surgeon and for promotion by selection to the grade of medical director. Retirement pay after 30 years of service or at the age of 64 is three-fourths of annual basic pay at the time of retirement. Minimum disability retirement pay is ordinarily one-half of annual basic pay at the time of retirement. Additional information may be obtained from the chief, Division of Commissioned Officers, Public Health Service, Department of Health, Education, and Welfare, Washington 25, D. C.

FOREIGN LETTERS

CHILE

Isoniazid Treatment of Extrapulmonary Tuberculosis.—Drs. R. Anetto, G. Chaparro, and F. Velasco of Salvador Hospital in Valparaiso reported on isoniazid therapy of extrapulmonary tuberculosis in the *Aparato Respiratorio y tuberculosis.* They used an initial dose of 3 mg. of isoniazid per kilogram of body weight that was increased from 8 to 10 mg. per kilogram in treating patients with tuberculous meningitis. The patients were divided in the following groups: (1) 6 who received streptomycin (intramuscularly and intrathecally) with *p*-aminosalicylic acid and who, when relapses occurred, were given isoniazid alone; (2) 4 who were given streptomycin and isoniazid who had had no relapses; and (3) 11 in whom isoniazid was the only drug used.

Good results were characterized by (1) disappearance of headaches and anorexia within two weeks, (2) disappearance of the meningeal syndrome within three weeks, (3) gradual return of the spinal fluid to normal, (4) fall in the sedimentation rate paralleling the clinical improvement, (5) gain in weight, and (6) rapid subsidence of fever in comparison with that following the older treatments. Good results were obtained within from one and a half to five months in all of the patients with relapse, in three of the four patients treated with the combined therapy (the fourth patient died), and in two of the patients treated with isoniazid alone.

Dr. S. Del Rio and associates used isoniazid to treat 41 patients with tuberculous laryngitis and bronchitis. All 41 patients had pulmonary lesions, which were minimal in 1, moderate in 12, and advanced in 28. A total of 31 patients who were benefited by isoniazid had been previously treated with *p*-aminosalicylic acid and streptomycin without benefit. All the diagnoses were made by endoscopy, a second examination being performed 45 days after the beginning of the treatment and a third at its completion. The results of the treatment were evaluated 90 days after the initiation of therapy, and the patients' conditions were classified as improved, static, or worse. Improvement was noted in 36 of the patients, 18 of whom were judged to be completely cured. In three of the patients there were no changes and the condition of two became worse. Statistical analysis showed that the age and the sex distribution was not significantly different in the group treated with streptomycin and that treated with isoniazid. Thus, whereas isoniazid produced improvement in 36 (88%) of the patients, the therapy with *p*-aminosalicylic acid and streptomycin or streptomycin alone in a control series produced regression in only 66%. This difference was found to be statistically significant. Prior to the advent of streptomycin and *p*-aminosalicylic acid, only 25% showed improvement. The authors concluded that isoniazid not only gives a better result but that the improvement thus obtained occurs much faster.

Anniversary of Chilean Society of Dietetics.—The 10th annual meeting of the Chilean Society of Dietetics, Nutrition, and Toxicology was held recently in Santiago. A number of foreign delegates added to the importance of the occasion. Argentina was represented by Professor Cels, the United States by Prof. Phillip White, Cuba by Professor Lagomarsino, Brazil by Dr. Taveira, Uruguay by Dr. De Mello, and Peru by Professor Urguiete. Among the topics under discussion were "Protection of Foodstuffs," "Problems of Dietetics," "Presentation and Preparation of Food," and "Training of Personnel for the Science of Nutrition."

Fourth Sanitary Meeting Between Chile, Peru, and Bolivia.—The fourth meeting of the control committee of the Sanitary Convention of Chile, Peru, and Bolivia was held in Arica, Chile, on July 1 and 2. Its purpose was to appraise the results of activities during 1952 and to plan the program for the coming year. This meeting had a special importance this year, as it was found necessary to modify and amplify the agreement between these countries in the light of recent conceptions of international sanitation. In addition to the ministers of public health, the directors of the health service of the three countries (Chile, Dr. E. Suarez, Peru, Dr. L. Saenz, and Bolivia, Dr. J. Aramayo) were present. The points of agreement concerned intensification and amplification of the antimalarial campaign, establishment of a goal of vaccination of 80% of the population against smallpox, the control and treatment of venereal disease in the border regions, investigation of the prevalence of trypanosomiasis (Chagas' disease) and means of controlling its vectors, investigation of intestinal parasitic infestations and their treatment, adoption of the yellow fever control measures set forth in International Sanitary Regulation No. 2 of the World Health Organization, and the establishment of sanitary border posts between the three countries.

Hematological, Immunological, and Hemostatic Changes in Cirrhosis of the Liver.—Drs. C. Meza and H. Orrego reported on 82 patients with cirrhosis of the liver in *Revista Medica de Chile* for May, 1953. The cirrhosis was classified as serious or mild. The serious cases were those in which there was ascites, esophageal varices, lethargy, or coma. Of the 82 cases, 61 were considered serious. They found anemia in 61 of the patients (macrocytic in 36, normocytic in 21, and microcytic in 4). All of those with microcytic anemia had severe hemorrhages. The authors noted that the severe anemias were always associated with advanced cirrhosis but that some patients with advanced cirrhosis had a normal erythrocyte count. There was, however, a relation between the degree of anemia and the quantity of serum albumin. The leukocyte count varied between 2,000 and 45,000. In 40 patients the count was normal, in 27 there was leukocytosis, and in 15 there was leukopenia. Marked leukocytosis or leukopenia was associated with the serious cases of cirrhosis. Except in patients whose leukocytosis was due to infection or hemorrhage, a count of more than 20,000 white blood cells was found only in the patients in coma. In the neutrophils deviation to the left was frequently observed. Pathological granulations of the neutrophils were present in 51 of the patients. The absence of eosinophils was a bad prognostic sign. There was a correlation between the lymphopenia and the severity of the clinical findings. Autoagglutinins and isoagglutinins were studied in 18 patients, in 13 of whom the presence of agglutinins was detected. A decrease of the prothrombin activity of the plasma was found in all of the 15 patients in this part of the study, a decrease of the fibrinogen in 12, poor retraction of the clot in 8, prolonged bleeding time in 8, increased coagulation time in 7, and increased fibrinolytic activity of the plasma in 4.

COLOMBIA

Toxoplasmosis.—In March, 1953, Drs. A. Laverde L. and J. Arciniegas Castilla reported in *Anales de la Sociedad de Biologia de Bogotá* the second case of congenital toxoplasmosis observed in Colombia. The first case was reported in October, 1950, by Drs. M. Roca García, J. Camacho Gamba, and G. Esguerra Gómez. The subject of the present report is a child, 7 months of age, the second son of an American father and a Colombian mother. The child was born in Bogotá at full term and was apparently normal during the first few months of its life except for a tendency toward eczematoid dermatitis and diarrhea when given cow's milk. From the age of 6 months, he had strabismus of the left eye, which was accentuated with nearsightedness. A clinical examination showed that the right half of the cranium was smaller than the left half. The ophthalmoscopic examination showed, in

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The items in these letters are contributed by regular correspondents in the various foreign countries.

the left eye, an ovoid, macular plaque of chorioretinitis, of 2 papillary diameters. There was convergent strabismus of 25 degrees in the left side. Roentgenograms of the skull showed small calcifications. They were irregular and observable in the region of the frontal lobes and in the cerebellar region. The sphenoidal cleft of the left side was larger than that of the right side. The Sabin and Feldman reactions were positive for the mother (1:1,024) and for the child (1:4,096) and negative for the father. The infant is living and apparently is in good health.

Trypanosomiasis.—H. Ucros and C. Gerlein, on Sept. 5, 1952, before the Society of Biology of Colombia reported their observations on 128 reactions of deviation of the complement, which were made according to Kelser's technique for the American Trypanosoma. The authors obtained 91% positive results in animals that had been inoculated with a strain of T. cruzi and 100% negative results in the controls. The cultures prepared with material from the same animals showed 90% of positive results, which proves the value of making cultures with material of patients with trypanosomiasis (Chagas' disease). The reactions of 86 samples of human blood serums of patients with different diseases were as follows: positive in 65.7% of 35 patients with mucocutaneous leishmaniosis and positive in 82.6% of the cases of bucopharyngeal leishmaniosis and in 41% of the cases with only cutaneous lesions. In 35 samples of blood serums from 12 patients with malaria, 10 with syphilis, 8 with amebiasis and 5 with cancer, the reactions were negative in all cases. In 16 samples of blood serums of persons with various diseases, including three with a verified diagnosis of T. ariari, the reactions were negative in all cases, which shows the specificity of the test.

National Meeting of Obstetricians and Gynecologists.—The First National Meeting of Colombian Obstetricians and Gynecologists was held in Bogotá, Sept. 9 to 12, under the chairmanship of Dr. A. Aparicio Jaramillo. Drs. C. R. Silva Mojica and F. Tamayo were vice president and general secretary, respectively. Headquarters were at the Tequendama Hotel, and the surgical sessions were held in the San José Hospital. More than 240 specialists attended the meeting. The question of whether purely medical or purely obstetrical treatment was preferable for the toxicoses of pregnancy and the importance of prevention was discussed.

A paper on the Rh factor brought out the fact that the Rh factor should always be determined in women who are to receive blood transfusions, in order to establish the compatibility of the donor blood and to prevent the stimulation of anti-Rh substances in the patient's blood. In Rh-negative pregnant women who have an Rh-positive husband, the presence of anti-Rh agglutinins should always be determined so that emergency treatment can be made available in advance. A careful clinical and hematological examination should always be made on infants born to an Rh-negative mother, even if isoimmunization is not demonstrable in the mother. The practice of inducing premature delivery in Rh-negative mothers is no longer advocated.

Another paper told of the establishment of clinics for consultation on sterility in Bogotá, Medellín, and Bucaramanga. The number of these important clinics should be enlarged in many other gynecologic centers of the country. When married couples report for examination because of sterility, it was recommended that the first examinations should be made on the husband.

National Congress of Gastroenterology.—The Fifth National Congress of Gastroenterology was held in Cali City, Sept. 9 to 13, under the chairmanship of Dr. H. Anzola Cubedes. Drs. C. Camacho and J. Lega were vice presidents; W. Elasmar B, general secretary; and F. Rojas Turriago, treasurer. Headquarters were at the Aristi Hotel and the surgical sessions were held in the San Juan de Dios Hospital. More than 120 delegates were present. In addition to the presentation of many valuable papers, demonstration courses on endoscopy and radiology were given in the San Juan de Dios Hospital and the Clínica de Occidente.

ITALY

Progress in Treatment of Blood Diseases.—Professor Baserga read a paper on the treatment of blood diseases before the medicosurgical society of Verona on March 21, 1953. He asserted that anemia can and should always be cured, and he adhered to the classical distinction of hypochromic, hyperchromic, and normochromic anemia. In hypochromic anemia, determination of the amount of iron in the blood plays a great role in successful treatment.

Administration of iron to patients with hypochromic anemia should be based on the following fundamental points: 1. Intravenous administration of iron should be carried out only in patients in whom the diagnosis of hypochromic anemia is certain. 2. The total dose of iron to be administered should always be previously calculated. Iron administered orally is absorbed by the intestinal mucosa only if the patient lacks it, whereas the iron that is administered intravenously accumulates in the organs when the amount given is greater than what is needed to restore the hemoglobin level to normal. From this arises the danger of hemosiderosis when intravenous therapy is not indicated or when it is carried out improperly.

Discussing hyperchromic anemia, Professor Baserga said that today pernicious anemia is always cured with liver extracts and vitamin B_{12}. Cases have been reported in the literature in which there was sensitivity to folic acid and resistance to vitamin B_{12} or cases of sensitivity to liver and resistance to vitamin B_{12}, but they are rare. Therefore the therapeutic problem of pernicious anemia can be considered practically solved. On the other hand, the diagnostic problem is still difficult.

The use of tonic preparations containing vitamin B_{12} leads to the situation that almost all anemic patients are given large doses of the vitamin before an exact diagnosis is established. Because of this, the clinical and hematological picture of pernicious anemia is greatly altered and dissipated, while at the same time the neurological syndrome is not prevented. The physician should therefore learn to know the picture of disguised pernicious anemia. He should give great importance to the neurological examination because the most interesting clinical sign is the disappearance of the vibratory sensibility of the lower extremities.

Normochromic anemia is the most difficult to treat. Some authors say that it does not exist and that only in rare cases is hypochromic anemia due to lack of iron and deficient bone marrow function. However, in relation to the small amount of marrow present, the quantity of iron is sufficient. Often this is the complex picture seen in aplastic anemias that can develop into leukemia and agranulocytosis if the patient is kept alive by blood transfusions or other forms of treatment.

At this point Professor Baserga drew attention to the concept that he has supported for many years that in most cases of aplastic medullar reactions the following factors are present: an almost empty bone marrow, absence of peripheral anemia, and agranulocytosis. Often in the long run there is also aplastic anemia.

The question arises as to what therapeutic possibilities exist for this syndrome, which includes true aplastic myelosis, progressive myeloid atrophy, and aplasia caused by drugs. The speaker said that treatment of agranulocytosis consists mainly of repeated blood transfusions, and he spoke of the use of cortisone and corticotropin in hematology. He explained their mechanism of action, which is of an antibody and cytostatic nature and produces a general improvement that has not been well accounted for. The two hormones have mainly an antiallergic activity; this explains their pronounced therapeutic activity in all conditions that have some allergic aspects, such as agranulocytosis, acquired acute hemolytic jaundice, and acute thrombocytopenia.

Reviewing the literature on cortisone and corticotropin, he indicated the reasons that may make one product preferable to the other, the complications that may arise from their use in therapy, and the means to prevent or attenuate these dangers. He discussed treatment of hyperdysplastic diseases of the leukocyte, such as leukemia, lymphogranuloma, and lymphoblastoma. He explained the modern concepts about the pathogenesis of these conditions and listed the various aplasia-inducing agents like x-rays, radioactive phosphorus, arsenic, urethan, mustard gas, and corticotropin. Radiological therapy and careful symptomatic therapy have great importance in the treatment of chronic leukemia and lymphogranuloma.

Professor Baserga concluded that the treatment of anemia has already achieved its goal. In leukemic forms it is, however, only possible to prolong the life of the patient. Therefore the physician's first duty is to use all the therapeutic means that can improve the condition of the patient and prolong his life until science finds more effective remedies.

Convention on Tuberculosis.—The 33rd convention of the Swiss Association Against Tuberculosis was held in Zurich April 25, 1953. Many Italians participated. Professor Daddi, director, University of Milan Institute of Phthisiology, said that there may be in the same person streptomycin-resistant strains of bacilli in the tuberculous cavities while there are streptomycin-sensitive strains of bacilli in other areas of the organism. This was repeatedly proved in his clinic, and he is therefore convinced that therapy with this antibiotic should be continued even in those patients whose sputums contain strains of streptomycin-resistant bacilli. In fact, he obtained excellent results in many such patients.

Professor Baroni, director of the Sondalo sanatorium, reported the results of studies on isoniazid that are still in progress in the sanatorium laboratories. The capacity of the organism to break down and eliminate the drug varied among the various groups of patients. As a rule, the efficacy of the chemotherapeutic product is greater in the patients who break it down with lesser intensity.

Professor Garattini, from the University of Milan Institute of Pharmacology, advanced hypotheses that tend to reconcile the laboratory data, which contraindicate the combination of isoniazid with streptomycin and *p*-aminosalicylic acid, with the clinical data, which definitely favor such a combination. He discussed also the particular character of the resistance to isoniazid. Resistance to the drug is entirely specific. Therefore, new products that have marked structural analogies with isoniazid can be very active on isoniazid-resistant germs. This suggests new possibilities for the solution of the problem of tubercle bacilli resistance to the newest of the specific antibiotics.

Terminal Nerve Corpuscles in Walls of Arteries and Veins.—Professors Bertelli and Rugani discussed terminal nerve corpuscles of the vascular walls at a meeting of the Physiocritics Academy of Siena on April 29, 1953. Bertelli reported the results of studies made to establish the topography and morphology of the terminal nerve corpuscles situated in the wall of the popliteal artery and near it and to ascertain whether they are also present in the wall of the homonymous vein and near it. He performed serial microscopic sections of the popliteal vascular bundle that he had removed in all its extension and with much perivasal connective tissue from three men, aged 16, 40, and 56. He found that the corpuscles are rarely present in the adventitia of the popliteal vessels, their number being limited to one or two in the artery and vein of each person. There is a conspicuous number of them, however, in the lateral and medial angle where the popliteal vessels come in contact. There are other corpuscles in various points along the walls of the vessels, in contact with the adventitia as well as removed from the vessels, near the muscle bundles and the fibrous septa that from these proceed toward the adventitia of the two major popliteal vessels. He studied also the external form of the corpuscles and their complexity. These corpuscles belong to the category of specific and nonspecific corpuscles of Vater-Pacini. His studies are still in progress.

Professor Rugani discussed the terminal nerve corpuscles that are in contact with the walls of the femoral vessels and near them. He observed incapsulated nerve endings, mainly of the Vater-Pacini type, near the femoral vessels or in contact with them. The vessels had been removed from one side only in three men together with the surrounding adipose tissue, and many serial sections had been made. He gave exact information on the numerical topographic rate of the terminal nerve corpuscles with respect to the arterial and venous walls. He pointed out their interesting distribution in the common femoral artery and demonstrated the relation of some corpuscles with both the walls of the vessels and the arteriovenous anastomoses.

LONDON

Common Cold Virus.—After seven years' intensive investigation at the Medical Research Council's common cold research unit at Harvard Hospital, Salisbury, Dr. C. H. Andrewes and his staff have succeeded in propagating the common cold virus serially in cultures of embryonic human lung. In a preliminary communication in the *Lancet* (Sept. 12, 1953, page 546), they give details of their methods and their preliminary results. Cultures of human lung tissue were prepared from embryos up to 16 weeks of age. Five tissue explants were placed in each plasma-lined tube and 1 ml. of nutrient fluid was added. The nutrient material consisted of 90% bovine amniotic fluid (Seitz-filtered), 5% bovine embryo extract, and 5% normal horse serum. Penicillin, streptomycin, and phenol red were added to a final concentration of 100 units, 0.1 ml., and 0.002 mg., respectively. In later experiments, soy bean trypsin inhibitor was added to a concentration of 0.1 mg. per milliliter. The tubes were inoculated at 37 C in a drum revolving 14 times an hour. All cultures used for passage were at least three days old.

A series of passages was initiated by the inoculation of unfiltered nasal washings from a person with a typical afebrile cold. The material so obtained produced 13 colds in 130 volunteers, an incidence of 10%, where as parallel cultures not inoculated with infected material gave rise to no colds in 61 volunteers. Colds were produced by cultures up to and including the 10th serial culture; by that time the original virus had survived 35 days at 37 C and had undergone a 10^5 dilution. Culture materials were further diluted 1:5 before testing. There is thus "good evidence" that the infective agent has multiplied in culture. Dr. Andrewes sums up the position by stating: "Propagation of the common-cold virus in culture will give results of little practical value so long as growths of the virus can be proved only by tests on volunteers. We have every hope, however, that its presence will be demonstrated in other ways. Cytopathogenic effects on cultures have not yet been seen but most observations have hitherto been of roller-tube cultures with low-power objectives. There has not yet been time to apply to the problem various methods of microscopy and electron microscopy nor many available microbiological techniques. With demonstration of activity of the virus in cultures by any of these methods, study of the common cold would enter a new phase."

Field Work of a Diabetic Clinic.—"The need for field work in the care and aftercare of the diabetic patient becomes apparent the longer one works in a central clinic. It is doubtful whether the family doctor can find time to undertake all this work. Teaching the diabetic has to be slow, painstaking, and above all consistent. It is not always possible to have consistency in treatment with different schools of thought, neither of which are wrong but confusing to the patient. This work can be done by a woman of the right personality who must have considerable tact as well as expert knowledge. As she is based on the clinic, the patients recognise her as part of the authorised service and they do not consider her an intruder. Her reports to the clinic and to the patient's own doctor help to keep everyone informed of the situation. This work is better done by a specialist health visitor, as mistakes in management of the diabetic may readily occur where anyone lacks the experience which may be obtained only after working with the disease in all its vagaries." This is the opinion of Dr. Joan B. Walker, medical officer in charge of the diabetic department, Leicester Royal Infirmary, gained from experience in the County of Leicester that has a population of around 350,000 (*Lancet* 2:445, 1953). After consulting the local authority, hospital management committee, and the general practitioners' committee, a specialist health visitor for diabetic work was appointed. She attends the diabetic clinics and sees every new patient with the physician in charge. A full report is sent to the patient's physician, and arrangements are made by the health visitor for the district nurse to supervise the administration of insulin until the patient or a relative is capable of giving it unaided. During the first, second, or third day, the health visitor visits the patient with the district nurse, investigates the home conditions, and discusses any outstanding problems. A second visit is paid, after the patient has been to the clinic a second time, and the health visitor demonstrates how to test the urine and also checks the patient's diet and insulin dosage. On the third visit, the health visitor watches the patient test his own urine. Subsequent visits are made as required or at the request of the family physician or the clinic. Special attention is paid to the care of the feet in the elderly and those with peripheral vascular disease and to the assistance of patients with failing vision. The health visitor is able to give advice on such problems as provision of home helps, ambulance facilities, or applications for national assistance benefit.

Examples are given of the value of the work that such a health visitor performs. She is able to assist mothers in taking over the care of their diabetic children without any difficulty or unnecessary worry, and she visits schools attended by diabetic children so that she can explain hypoglycemia to the teachers and discuss the diet with the school cook. Most of the diabetic children take the school dinner without any modification. At the difficult stage of leaving school and beginning work, the health visitor can make sure that the person chooses suitable employment, visits the personnel manager, and discusses any dietetic problems with the canteen supervisor. Shift work is common in Leicester, and at one time it was considered advisable to keep diabetics from such work. This caused an inevitable detrimental effect on pay and promotion. With the aid of the health visitor, it has been possible to overcome this difficulty either by discussions with the employer or by advice given to the diabetic in how to adjust his diet and insulin intake to fit the shifts. Much useful work has been done in reducing the necessity for senile diabetics to visit the clinic and in supervising the tuberculous diabetic undergoing domiciliary treatment for tuberculosis. An interesting example is also quoted of how the health visitor can prove useful in an emergency. A batch of protamine zinc insulin was found to be faulty. On being notified, the manufacturers immediately recalled the whole batch, but in some rural areas the recall was difficult. At each home visit the health visitor checked the batch number of all the insulin vials in the house and found 29 patients who were using the faulty batch; 20 had experienced nocturnal thirst and polyuria, 18 loss of weight, 3 ketosis, 2 intercurrent infection, and 5 hypoglycemia. All responded immediately when given other insulin.

General Practitioner Research.—"Research Newsletter No. 1" of the College of General Practitioners (*The Practitioner*, Sept., 1953, page 307) reports that the college has established a research committee and opened a research register. The objects of the committee are "to assist general practitioners in work undertaken in their own practices, either single-handed or in study groups." In addition, help will be given, if requested, to existing research organizations in the collection of material. Although the most important part of this work of the college will be the encouragement of general practitioners to undertake research in those aspects of practice that interest them most, the college will also initiate investigations and form college research groups to work on other problems. No attempt will be made to compete with existing research organizations and work will not be initiated by the college that can be better done by others.

There are already many names of physicians on the research register of the college, and a directory has been prepared that contains the names and addresses of all members and associates on the register. With the name of each is entered the particular research interest expressed by him in his original application, and it is hoped that the directory will serve as a means of introducing physicians who have similar interests. "In this way, exchange of ideas and information may be effected, and study groups may be formed which can investigate problems of their own."

From an analysis of these entries "it is clear that there are three types of research-minded general practitioners." The first is the man who prefers to work alone and who may have a definite object in view, that is, an M. D. thesis. He may need advice on the value of his undertaking, on colleagues who are working on similar problems, and on the suitability of his work for publication. In all of these ways the college can help him, "It may put the 'one-line' worker who has exhausted all the clinical material in his practice in touch with a colleague who can provide him with more." The second type has interests in some wider field. When it is known that others share these interests, the next logical step is the formation of study groups within the membership of the register. The hope is expressed that "study-groups will form themselves in this way, introduced and helped by the College, but in no sense controlled by it." The third kind is willing to collect information to be analyzed by a central organization.

To advise it on all research problems the college has established a research advisory panel consisting of experts in a wide field of scientific and medical experience.

Smoke and Cancer.—In his presidential address to the chemical section of the British Medical Association, Prof. G. R. Clemo, director of the chemistry department, King's College, Newcastle-upon-Tyne, reported that analysis of smoke collected in Newcastle had revealed the presence of considerable amounts of a material that proved to be a derivative of pyrene and that gave highly characteristic derivatives resembling those of a well-known carcinogen. The possible relevance of this finding to the cause of cancer of the lung could not be ignored.

Aid to Antivivisectionists.—The curiously muddled thinking that characterizes many well-meaning members of the public on the subject of vivisection has once more come up. In an address to the zoological section of the British Medical Association, Dr. W. Lane-Petter, director of the Laboratory Animals Bureau of the Medical Research Council, drew attention to the fact that certain branches of research, teaching in particular, were seriously handicapped by the difficulty in obtaining sufficient numbers of dogs and cats. He pointed out that, if even a fraction of the dogs and cats that are destroyed annually were made available for research purposes, this problem would be solved. "If reputable public bodies were to assist the laboratories in this humane task the private dealer would go out of business, medical research would be the richer in time, money, and, above all, opportunity, and human and animal suffering would be substantially reduced." This admirably humane solution to a problem that is assuming increasingly serious proportions has produced an outburst from one of the "reputable public bodies" to which Dr. Lane-Petter referred, the Royal Society for the Prevention of Cruelty to Animals. Full justice can only be done by direct quotation: "On this matter of using stray dogs for experimental purposes, we can admit no compromise; and any attempt to alter the existing regulations which forbid such a practice, will be faced with resolute opposition by the R. S. P. C. A. We consider that the mere fact that a dog has become a stray means that he has suffered; and to change the law here, as has been done in the United States, would be a step of the most retrograde kind. Furthermore, the society could not break faith with the public who hand their dogs, cats, and other pets to us in order that we may give them a painless end."

Saccharin.—Having been informed by the Medical Research Council that certain artificial sweeteners are "undesirable for reasons of health," the Minister of Food has issued the Artificial Sweeteners in Food Orders, 1953, that prohibit the use of all artificial sweetening substances except saccharin in food.

CORRESPONDENCE

HYDROCORTISONE AND RESISTANCE OF TISSUE TO INJURY

To the Editor.—The Selye article that appeared in The Journal (**152**:1207 [July 25] 1953) is directed against the thesis that the glucocorticoids provide some "protective shield" around the tissues of the body. Experimental work is quoted from which a hypothesis, stating that "inflammation and necrosis are two related, but fundamentally opposed, types of reactions to nonspecific tissue injury," is derived. The key word in this hypothesis is "opposed." Temporally the two reactions are closely related; morphologically they may be separated. To place a teleological framework on the occurrence of necrosis and inflammation is to prolong the now defunct debate on the usefulness or harmfulness of inflammatory phenomena. It is necessary to recognize the importance of this class of recently defined hormones (cortisone and corticotropin) in general body reactions to injuries of various sorts. Partial insight as to how these hormones function on the local tissue level has been forthcoming in recent years (*Ann. N. Y. Acad. Sc.* 56:623, 1953). At the present time the greater part of the hormones' effect, on the local inflammatory reaction, seems to be in reduction and slowing up of inflammatory cellular and serum (?) phenomena. These hormones slow up the infiltration and reduce the number of inflammatory cells, particularly lymphocytes, allow for production of poor granulation tissue, and possibly reduce active antibody production. Their actual role then in local disease processes would seem to be in the nature of a controlling mechanism in these pathological tissue processes. The inhibition of inflammation would per se permit any sufficiently strong irritant to spread throughout the tissues and to produce necrosis. That subcutaneous or other tissues produce some granulation tissue and cellular barrier, even in the face of excessive hormones, is to be noted. Pathologists consider the importance of necrosis to cellular infiltration under the general heading of inflammation for discussion purposes. It is clearly understood that necrosis of portions of an organ may occur with little evidence of large amounts of inflammatory cell infiltration into the central portion of the necrotic site; an example is caseous necrosis of lymph nodes in various infectious diseases. Any necrosis of visibly measurable amount, however, if it exists within the body for a period of time, will produce cellular infiltration and circumscription. Indeed, the rule is necrosis to inflammatory cell exudate into the site. That the hormones under discussion have given us a slow motion picture of the forepart of this phenomenon, does not mean necessarily that the reactions occur separately. Has an experiment been devised that clearly proves that prolonged necrosis can occur without any inflammatory cell alterations?

The existence of other basic and important substances in necrosis and inflammation is generally recognized. Precisely how these interrelate with cortisone in the general phenomenon of inflammation has not yet been defined. That the importance of these local substances has been overemphasized and too many generalizations drawn from the limited experiments that first described them, is now generally conceded.

It is unfortunate that the article by Selye considers inflammation and necrosis as fundamentally opposed types of reactions. Necrosis, produced by whatever means, is but one in a long series of cellular changes that results in healing, provided the animal survives. The use of words such as phlogistic and antiphlogistic, while toxonomically sound enough, is to be deplored. Acceptance of the notion of the action of corticotropic hormones being a shield-like buffer against various irritants, while proposed at an earlier date, has by now been generally discarded.

An analysis of the article shows the following points. 1. Is the clinical assumption that glucocorticoid action is to provide a "protective shield" around the tissues of the body against pathogens correct? Answer: (*a*) Total lack of data to prove, in the area of those hormones greatest clinical usefulness, that pathogens are the responsible agent makes the protective shield notion unnecessary. (*b*) There is no experimental evidence for the existence of such a "barrier." 2. Is the statement that experiments are offered in evidence that these hormones can both protect and sensitize to injurious agents a sound one? Answer: (*a*) No evidence is offered for either sensitization, in the usual sense of the word, or hormonal protection, as such. 3. ". . . suppression of inflammation by glucocorticoids is virtually synonymous with the suppression of . . . disease phenomena. . . ." Answer: (*a*) Necrosis is increased, how can it be stated that disease phenomena are suppressed? 4. These experiments showed the production of a mild inflammatory response that protected the body against a subsequent severer injury. The severer (within limits) the primary injury the greater the protection. Answer: This general phenomenon and its modification by cortisone is generally recognized, it is not necessarily dependent entirely on cortisone for modification. 5. "It is not the inflammation that is 'necrotizing' but those histotoxic agents. . . ." Answer: This is not a clear statement, and in any case it does not consider local necrotizing agents produced by damaged tissues. 6. The histological pictures of cortisone-modified granulation tissue are similar to those produced by other workers.

It may be pointed out that the experimental work of Selye is similar to that of previous investigations. I do not take exception to the methods or techniques of the experiments but rather to the generalizations in the article. I take issue with certain terms, and it seems to me that the quantitative differences in tissue reactions produced experimentally are not sufficient grounds to call forth an attack on fundamental theses. An understanding of different enzyme and hormonal influences upon the phenomena of inflammation to necrosis to healing has progressed steadily during the last 100 years. The recorded work on cortisone effects in this area fit into the general pattern of previous tissue understanding.

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TREATMENT FOR VARICOSE VEINS

To the Editor:—A recent paper by Biegeleisen in the April 15, 1953, issue of the *New York State Journal of Medicine* describes that author's experience in the treatment of varicose veins. This report was abstracted in the Aug. 15, 1953, issue of The Journal. The author states that "in the absence of proved permanency of cure by surgical means, injection treatment remains the treatment of choice in most cases." This statement is in direct conflict with the reports from leading medical centers throughout the country and, therefore, deserves careful analysis.

Recent experimental and clinical investigations have demonstrated that injection therapy is not an effective method of treatment for varicose veins. It is impossible to localize accurately the effects of a sclerosing solution. Even in expert hands, injections may produce allergic reactions, skin sloughs, and deep phlebitis. Kinmonth and Boyd state that histological studies of veins injected with sclerosants indicate that valves may be damaged by doses that are too small to even produce obliteration of the vein. Hanschell feels that varicose veins thrombosed apparently solidly by sclerosants seldom fail to be recanalized completely: "If injected veins with or without concurrent ligation had been followed for periods over 10 months, injections would long ago have been abandoned as useless." Prioleau states that injections should be reserved only for the obliteration of small unsightly varicosities. Garber also concludes that the benefit, if any, derived from sclerosant solutions is at best of a temporary nature.

The ideal method of treatment for varicose veins should include the following features: (1) Elimination of all venous incompetency at its source by ligation of all varices at their junction with the deep veins; (2) extirpation of the remaining varicose vein segments so that few, if any, postoperative injections are necessary; (3) making of few incisions so that the operating time is short and the cosmetic result good, and (4) local anesthesia and mobilization of patient almost immediately postoperatively. These criteria are best met by a proper high ligation of the long saphenous vein, followed immediately by a complete stripping procedure. Total removal of the diseased saphenous system can be performed with local anesthesia on a semiambulatory basis. Postoperative treatments are reduced to a minimum since few, if any, injections are necessary. Not only all incompetent veins are localized preoperatively and effectively eliminated at operation but, by stripping out the saphenous vein, all other communicating branches are cut off and the possibility of incompetency developing at these sites at a future date is minimized. Many patients who have had both operation and injections stated the injections caused more pain and disability than the operation.

Dr. Biegeleisen, in comparing sclerotherapy with surgical treatment, compares his series of patients treated with injections with "62 cases undergoing various types of venosurgery. They included the author's private patients as well as others." Fifty-eight of these 62 patients had high ligations or multiple ligations. On the basis of this group of patients, the author describes a very high incidence of recurrence of varicose veins and of lymphedema following operation. In the first place, a stripping procedure was used in only two patients, and this operation is now generally accepted as the most effective surgical treatment for varicose veins. Second, the operations were performed by several physicians, and their exact technique is not described. Unfortunately, in a significant proportion of cases, the long saphenous vein ligation is not performed high enough (flush with the femoral), and the small branches, which persist, pave the way for the recurrence of varicosities. As far as the incidence of lymphedema is concerned, in a series of 3,300 cases operated upon by Linton, Silbert, Bull, and myself, not one instance of "lymph-leg" has been noted during the past 15 years. This contrasts sharply with the results reported by Biegeleisen. If all active infection in the extremity has been controlled and if the surgeon avoids any enlarged lymph nodes or lymphatic vessels that may be present, there should be no postoperative lymphedema.

The ideal treatment for varicose veins consists of the eradication of all detectable venous insufficiency in the most rapid manner possible, with the least time loss, discomfort, and expense for the patient. Injection treatment is a palliative, not a definitive, method of treatment, and it does not accomplish this objective. After analyzing the literature, communicating with other specialists, and evaluating my own results, it is apparent that this objective is best achieved if a careful high ligation and complete stripping procedure is performed.

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HANSENOSIS FOR LEPROSY

To the Editor:—Recently I received a letter from Mr. Stanley Stein regarding the acceptability of the name Hansen's disease to supplant the word leprosy. Mr. Stein is editor of *The Star*, a magazine published by patients of the U. S. Public Health Service Hospital, Carville, La. I share in the general objection to the use of eponyms in designating diseases. However, I believe a less opprobrious term than leprosy is desirable providing it has taxonomic acceptance.

As is well known, the micro-organism generally accepted as the causative agent of leprosy is an acid-alcohol-fast organism discovered by Hansen, a Norwegian physician, in 1868. The biological characteristics of this organism require its classification under the family Mycobacteriaceae, where it is correctly placed under the genus Mycobacterium (Breed, R. S.; Murray, E. G. D., and Hitchens, A. P.: Bergey's Manual of Determinative Bacteriology, ed. 6, Baltimore, Williams & Wilkins Company, 1948, pp. 876-891). To this, there can be no rational objection. The objectionable feature, and the obstacle that must be surmounted in considering a change in nomenclature, is the name of the species, which is leprae. As a way around this difficulty, the name of the species might be changed from leprae to hansenii (in honor of Hansen who discovered the organism). The name of the organism, then, might become officially Mycobacterium hansenii. The disease produced by this organism could then properly be designated hansenosis. This would, I believe, be correct in a taxonomic sense and would meet the objections of those who, for eponymic reasons, dislike the name Hansen's disease.

I do not consider what is written here to be authoritative. I am not a bacteriologist and probably should not encroach on the field of those who are. My views are given as suggestions and probably have occurred to others. They are offered in further exploration of a problem that is of concern to many persons. Those who seek more information regarding the origin of the term leprosy may consult the article by Lendrum (*Am. J. Trop. Med.* [Nov.] 1952), who considers the word leprosy a barrier to sound medical care and a historical misnomer.

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STAIN FOR LIPID BODIES

To the Editor:—The article "Stain for Lipid Bodies in Urinary Sediment" (*J. A. M. A.* **152**:1713 [Aug. 29] 1953) leaves with the reader the definite impression that (*a*) the staining of urinary sediments, although until recently not widely utilized, is now being widely utilized and (*b*) that the authors have proposed a new method for staining urinary sediments in order to reveal lipid bodies. It would be difficult indeed to know how widely staining methods for urinary sediments are employed, but it is likely that such methods are seldom used even today. The reference to this matter cited is by no means the only one, for there have been many, including one by Behre and Muhlberg (*J. Lab. & Clin. Med.* **22**:853, 1937). The reason staining methods are not widely employed is that experienced observers do not find them necessary or advantageous except under unusual conditions. With regard to the method of staining sediments with Sudan 3, which the authors give in detail, this method is one of the oldest, and there is nothing new about the method proposed by the authors.

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PHYSICAL ROLE OF PLATELETS

To the Editor:—Between the covers of THE JOURNAL two references to hemostatic mechanisms have recently appeared (Transfusion of Platelets, editorial [Aug. 8] p. 1434, and Pfizer's Spectrum [Aug. 29] adv. p. 28). Both of these omit the mechanical role of the blood platelets in arresting hemorrhage. This fundamental role of the platelets is frequently overlooked by chemists studying coagulation, but I do not understand how it can be consistently overlooked by physicians and physiologists with a comprehensive point of view.

Independent observation by Hayem and by Bizzozero in the 1880's established that blood platelets clump together and fill in the gaps in cut blood vessel walls. Apitz, Zucker, and Hugues have made direct observations of this process in mammals in recent years, and my study of biopsy material showed that man is like other mammals in this respect. When a muscular vessel is opened, a sizeable platelet mass forms at the site of injury within two minutes. As this plug forms, it is, at first, leaky and rivulets of blood can be seen spurting through it; possibly the fibrin mechanism is responsible for making this platelet seal waterproof (bloodproof). In some instances the platelet plug may be washed away several times, by the force of the bleeding, before it finally becomes fixed. One might suppose that fibrin is involved in this fixing too. In any case, the long-observed fact is that platelets, not fibrin needles, are the normal sealers of muscular blood vessels. The fact that platelets also contain and release chemical factors involved in hemostasis and clotting is not debated. That fact should not blind us to the platelets' basic role as morphological entities.

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COUNCIL ON MEDICAL SERVICE

SUMMARY OF A STUDY OF MULTIPLE SCREENING

The Council on Medical Service has completed a study of 22 multiphasic screening programs carried on in various parts of the United States. The study report is being published in lithographed form for those particularly interested in multiple screening. The following paragraphs contain a summary of the study report. No effort has been made to evaluate these programs at this time; rather the Council has tried to report the opinions and ideas of physicians familiar with multiple screening and let the readers make their own decisions.—Ed.

The Council on Medical Service has investigated the subject of multiple (multiphasic) screening and has published this study for distribution to those interested in the subject. Because the subject is controversial, because it has some ardent advocates, and because it has equally ardent opponents, the Council desired to explore the subject in as objective a manner as possible, to present what facts are available, and to show all points of view. The Council has obtained its information through reports from the literature, material on file at the Council's office, and direct communication with persons and agencies responsible for the administration of the various multiple screening programs.

Following is a brief résumé of the complete report, which summarizes some of the pertinent data contained in the 22 multiple screening surveys included in the study. Several surveys were not included in the report. Results of some are not ready for publication owing to data not yet collected or coded and inability or delay in obtaining approval for publication. However, the included 22 surveys are a representative sample of multiple screening. They range in number of persons screened from 500 to 500,000 and in types of persons covered from insurance company employees and small industrial plant workers to city and statewide screening surveys of the general public.

MULTIPLE SCREENING DEFINED

During the last five years many multiple screening surveys have been conducted. Much has also been written both for and against such surveys, and some varying concepts have been expressed. Therefore, a definition is needed that embraces the fundamental concept and expresses the consensus of those actively engaged in the administration of multiple screening surveys. The basic definitions agreed upon at the National Conference on Chronic Diseases: Preventive Aspects, held in Chicago March 12 to 14, 1951, led to the following formulation. This definition is consistent with the concept of multiple screening as expressed in the surveys studied. Multiple (multiphasic) screening is the use of two or more simple laboratory tests, examinations, or procedures, applied rapidly and on a mass basis, to determine presumptive evidence of unrecognized or incipient disease or defect. It has been repeatedly emphasized that screening should in no way be confused with diagnosis. It is merely a step toward diagnosis and a method, however imperfect, for determining the persons most needing referral to their physicians for further study, diagnosis, and treatment. By this method large numbers of apparently well persons can be tested and examined by the use of simple laboratory tests or procedures administered for the most part by nonprofessional personnel and checked by physicians. Persons with positive results are then referred to their family doctor.

OBJECTIVES

The objective in nine surveys was health education and a desire to seek out hidden, specific disease in the population screened. Seven sought mainly to evaluate the potentiality of multiple screening and to test the principles involved. Three surveys were primarily interested in an employee health service coverage, and three others sought to accomplish an economy of administration and operation and give better service to the persons screened than would be possible through a single disease casefinding program.

APPROVAL AND SPONSORING AGENCY

Fifteen surveys were officially approved by medical societies, local and/or state, depending on the area covered. In addition, one had indirect medical society approval while another was approved by the physicians of the area concerned. Four of the screening programs were not submitted for medical society approval because the tests were not available to the general public but rather were confined to a particular employee group, one of which was covered by a union health service plan. Almost all of the multiple screening programs that were open to the public were conducted by the state, county, or city health departments with active cooperation from other health agencies, including active participation in six instances by the local medical society.

CLINIC FACILITIES AND OTHER DETAILS

The screening clinics in many instances were set up with a mobile chest x-ray trailer as a basic component; in other instances the facilities of regular clinics were used in off hours; and in others temporary clinics were assembled at schools, stores, churches, vacant rooms at industrial plants, and booths at fairs. The time per person screened varied from 3 minutes to 60 minutes, depending on the number of procedures performed, which ranged from 2 to 15. Those procedures included a chest roentgenogram, serologic test for syphilis, determination of hemoglobin level, determination of the blood sugar level, and determination of the erythrocyte sedimentation rate; measurement of the sugar and albumin content of the urine, blood pressure determination, electrocardiogram, measurement of the height and weight, tests to determine sight and hearing defects, Papanicolaou smear test, hematest (for occult blood in feces), self-screener history, and a physical examination or parts thereof. The examining units staff consisted of a supervisor; various numbers of technicians, nurses, clerks and volunteer workers; and one or more physicians on duty continuously, alternately, or just part-time.

FINANCING AND COST

Sixteen surveys were financed by money and contributed services of the state departments of health, county and/or city health departments, local medical societies, local chapters of the tuberculosis and cancer associations, and other community health agencies. Seven of those 16 were also aided by grants, services, and/or equipment from the United States Public Health service. In three surveys the employer paid the total cost of screening. One was financed by a union and employer health and welfare fund, one by a health service plan with the aid of local health agencies, and one with the patient himself paying part of the cost, the remainder being absorbed by the medical school clinic and other health agencies. The cost per person screened in the 22 surveys (exclusive of follow-ups) ranged from $1.03 to $15.00 per person.

RESULTS

Ten of the 22 surveys were chosen for a table in this review because they provide the most complete data available concerning both results of screening and results of medical follow-ups. That data may be of some value in evaluating the results of multiple screening as it has been applied in actual practice. The table in itself, of course, does not tell the complete story. Several interesting observations and facts concerning those results will serve to indicate more clearly the significance of the figures thereon.

By way of further explanation regarding the table, it should be noted that data contained in the complete report show that 28% of the positive screenees in survey number 4 did not respond to medical follow-up and of the 72% who did respond almost 50% had confirmed diagnoses of serious disease after medical follow-up. In addition, 75% of the confirmed diagnoses were for cardiovascular disease and diabetes, and a pronounced correlation with obesity was observed (43% of the screenees were 20% or more above ideal weight and 10% were over 40% above ideal weight). Of interest, too, in this survey is the discovery that only 19% of those with subsequently confirmed diagnoses were then under a physician's care.

In survey number 14 nearly all of the 583 screenees had one or more positive test results; all were adults over 45 years. In this survey those with positive test results were examined further to the point of diagnosis and then referred to their family physician for follow-up and treatment. Cardiovascular disease and diabetes constituted 75% of the confirmed diagnoses of serious disease.

Informative replies were received from physicians in 69% of the referred cases in survey number 15. As noted in the table, 1,646, or 63%, of the screenees had positive findings on screening. It was estimated that only about 3% of those referred for a condition did not visit their family physician. In surveys 16 and 17 informative replies from physicians were received on only 50% of the positive screenees who were referred to their physicians for further study, diagnosis, and treatment, while 76% of the referred cases were reported on by personal physicians in survey number 18. When the data were broken down according to disease finally diagnosed and confirmed, it was found that the family physician confirmed the screening test findings in a ratio of one to two in the following conditions: anemia, heart disease, hypertension, diabetes, respiratory tract infection, tuberculosis, and syphilis. In surveys 18 and 19 cardiovascular disease alone accounted for 75% of the confirmed diagnoses of serious disease after follow-up.

Additional data from that given in the table on survey number 22 indicate that the follow-up or report of follow-up for the various conditions screened was made on from 50 to 80% of the persons referred to their physicians. Persons with confirmed diagnoses of serious disease made up approximately 50% of those coming to follow-up and/or of those coming to follow-up and reported on by their physicians.

Results of Multiple Screening Surveys

Survey *	No. of Persons Screened	No. of Procedures Used	No. of Persons With One or More Positive Test Results	No. of Persons With Serious Disease Diagnosed After Medical Follow-Up †	
				Actual Number	Number/ 1000
1	651	9	352	135	207
2	470,379	3	Data not available	21,964	44
3	945	6	174 ‡	36	38
4	3,994	12	2,521	848	213
14	583	14 plus	1,605 ‡	141	241
15	2,620	15 plus	1,646	186	71
16	4,536 §	15 plus	2,815	360	79
17	1,172	13 plus	704	234	200
18	1,004	13 plus	671	218	217
22	37,609	9	13,113	2,622	69

* The surveys are numbered according to the alphabetical arrangement by state in complete report.

† Excluding vision, hearing, and weight abnormalities.

‡ Number of positive test results.

§ Number tabulated from total of 5,057 screened.

SUMMARY ON RESULTS

In summary, then, it is found that the incidence of lack of response to follow-up on the screenee's part ranged from 1% to 50%. Reports on referrals by physicians making diagnoses after medical follow-up were made in from 50% to 80% of cases, and the incidence of confirmed diagnoses of serious disease after medical follow-up was as high as 50% in several surveys.

It seems significant, therefore, as shown in the column to the right in the table, that the actual number of diagnoses after follow-up of serious disease made and confirmed per 1,000 persons screened ranged from 38 to 241. On the basis of surveys in which a differentiation was made, it may well be assumed that the average yield in previously unknown cases was better than 50%.

COMPARISON WITH SINGLE DISEASE CASEFINDING SURVEYS

The final results, after medical follow-up of the multiple screening surveys in new cases of tuberculosis and diabetes found, compare favorably with the results of special casefinding surveys involving those particular diseases. It is apparent, therefore, that the multiple screening programs did not decrease the effectiveness of tuberculosis and diabetes casefinding.

OBJECTIONS

Many objections have been voiced against the use of multiple screening. Some are valid dangers and must be cautioned against, but others seem to be based upon misconception. As it is not the purpose of this report to defend or refute these objections, they shall be listed and judgment as to their validity shall remain with the reader.

1. A medical production line type of examination by machine cannot exclude or detect all incipient disease.
2. Multiple screening could put the physician backstage in the diagnosis of disease.
3. It may engender into the minds of those in whom abnormalities were not found a false sense of security.
4. It may cause undue apprehension and expense for those who are found to have false positive results from screening tests.
5. Multiple screening represents inadequate medical care and as planned and practiced is based on untenable premises.
6. The diagnostic techniques in multiple screening that have been devised as a means to an end are used as an end in themselves.
7. The physician has no opportunity to secure an intimate knowledge of the patient.
8. There is no opportunity for an appraisal of the "negative" group by a physician.
9. Most of the tests that are employed do not possess even an approximately precise value or measure that, on the one hand, may indicate that a finding is within physiological limits, or, on the other hand, is really indicative of a disease process.
10. Multiple screening is an infringement on private practice; it is the "Trojan horse" of socialized medicine.
11. In multiple screening there is need for a tremendous amount of community organization in order to maintain public interest and enthusiasm.
12. Multiple screening programs consume a great deal of the time of key personnel of the health department and cooperating voluntary health agencies.

ADVANTAGES

The stated advantages and comments favorable to multiple screening were not listed categorically in the complete report because they were expressed in the descriptive data of the surveys. However, in an abstract such as this, it becomes necessary to reproduce a listing of some of the most prevalent comments favorable to multiple screening as well as the list of objections.

1. Multiple screening is an excellent preliminary procedure to any form of examination by reducing the cost and time factors, thereby making it possible to extend periodic examinations to significantly larger groups of the population.
2. Screening programs are one of the practical ways of bringing the benefits of early detection to as many persons as possible. They can help sort out persons who are apparently well but who in reality may need medical care.
3. Multiple screening has been demonstrated to be an effective method of health education and its public relations value has great merit.
4. The multiple screening program was an aid to making people health conscious and seemed to stimulate the desire for regular check-ups.
5. Pooling of results of mass survey studies give invaluable information concerning incidence and prevalence of disease in the population.
6. Multiple screening examinations are flexible. They can be adapted or modified to fit specific groups under consideration and resources that are locally available.
7. As a program of prevention, multiple screening has caused a large number of apparently well persons who were not aware that they might have a progressive disease to consult their physician.
8. Multiple screening is an attempt by the medical profession to make more adequate medical care available to more persons through their family physician.
9. Multiple screening clinics are an effective weapon against the proponents of socialized medicine. The program can be controlled by the local medical society.
10. The patient is enabled, through multiple screening, to benefit in a single visit to his physician from the most recent developments in preventive medicine and health supervision.
11. Multiple screening for chronic diseases presents the possibility for a more economic and more productive use of personnel and facilities than is possible with multiple independent casefinding efforts.

MEDICAL MOTION PICTURES

The Treatment of Mental Illness by Topectomy: 16 mm., color, sound, showing time 25 minutes. Produced in 1951 by, and procurable on loan from, New York State Department of Mental Hygiene, Albany, New York.

Some years ago a special project in the treatment of mental diseases was undertaken in New York. This was quite an elaborate project in which the patients were studied, in most cases, by a battery of psychiatrists before and after an objective procedure was carried out. The study is still in progress and the patients operated on four years ago are still under close psychiatric scrutiny. This had involved a great deal of time and a great deal of money. This report-type film concerns the objective procedure that was carried out on these cases. This was also subject to very careful specifications. It involves the removal of a certain amount of cerebral cortex from both sides of a certain part of the brain. The utmost care has to be taken with regard to the location of the surgical extirpation and its extent. This procedure was given the name of topectomy. As it is carried out at only one place under these carefully controlled circumstances, it was thought that it might be of interest to persons at a distance to know just what the objective procedure involved. Psychiatrists who might contemplate such a procedure for a patient might be especially interested in seeing the surgical procedure.

The film appears, by its language and its introduction, to be aimed at a mixed commission of laymen, physicians, and public officials who are supporting the venture. The language is extremely simple and, as far as the medical profession is concerned, redundant. Nevertheless, the surgical procedure can be seen and understood by anyone who happens to be interested. It is not suggested that this be shown to unsuspecting laymen, but rather to especially interested persons and particularly psychiatrists. The photography is satisfactory.

BUREAU OF LEGAL MEDICINE AND LEGISLATION

MEDICOLEGAL ABSTRACTS

Vitamins: Sale in Food Stores.—The plaintiff, a retail grocer, filed suit to obtain a declaratory judgment determining the proper construction to be placed on the Minnesota Pharmacy Act insofar as it affected the plaintiff's right to sell, at retail, tablets, capsules, or liquids containing vitamins in their original packages as prepared by the manufacturer or distributor, without giving any directions as to their use except such as are given on or in the package in which they are offered for sale. From an adverse judgment the plaintiff appealed to the Supreme Court of Minnesota.

Portions of the Minnesota statute involved in this action are as follows:

"Section 151.15. It shall be unlawful for any person to compound, dispense, vend, or sell at retail, drugs, medicines, chemicals, or poisons in any place other than a pharmacy, except as provided in this chapter. . . .

"Section 151.01 Subdivision 1 . . .

"Subdivision 5. The term 'drug' means all medicinal substances and preparations recognized by the United States pharmacopoeia and national formulary, or any revision thereof, and all substances and preparations intended for external and internal use in the cure, mitigation, treatment, or prevention of disease in man or other animal, and all substances and preparations, other than food, intended to affect the structure or any function of the body of man or other animal.

"Subdivision 6. The term 'medicine' means any remedial agent that has the property of curing, preventing, treating, or mitigating diseases, or that is used for that purpose.

"Section 151.26 . . . nothing in this chapter shall prevent the sale of common household preparations and other drugs, chemicals, and poisons sold exclusively for use for non-medicinal purposes.

"Nothing in this chapter shall apply to or interfere with the manufacture, wholesaling, vending, or retailing of non-habit forming harmless proprietary medicines when labeled in accordance with the requirements of the state or federal food and drug act; nor to the manufacture, wholesaling, vending, or retailing of flavoring extracts, toilet articles, cosmetics, perfumes, spices, and other commonly used household articles of a chemical nature, for use for non-medicinal purposes."

The plaintiff was not registered as a pharmacist or assistant pharmacist, and he did not, in the operation of his food store, employ a phamacist or assistant pharmacist. Each of the boxes, vials, or containers in which the tablets or capsules were offered for sale contains the information required under the Federal Food, Drug, and Cosmetic Act and the regulations issued thereunder and under the laws of the state of Minnesota.

The Minnesota statutory definition of the term "drug" breaks down into three parts or categories, namely, (*a*) medicinal substances and preparations recognized by the United States Pharmacopoeia and National Formulary or any revision thereof; (*b*) substances and preparations intended for external and internal use in the cure, mitigation, treatment, or prevention of disease in man or other animal; and (*c*) substances and preparations, other than food, intended to affect the structure or any function of the body of man or other animal.

The defendants, members of the state board of pharmacy, contended that the products the plaintiff sought to offer for sale are drugs and that they may be sold only in a pharmacy under the personal supervision of a pharmacist or assistant pharmacist.

The plaintiff contended first that the vitamin products that he proposed to sell in his food store constitute food or food products and are not drugs within the meaning of the Minnesota statute. All of the exhibits offered by the plaintiff, the Supreme Court said, contained some of the vitamins recognized by the United States Pharmacopoeia, and most of them contained several of such vitamins in various amounts and combinations. We are convinced, said the court, that the products that the plaintiff wishes to offer for sale come within the first category of the statutory definition of a drug. It is noticeable, the court continued, that the phrase "substances and preparations," as used in the statutory definition of a "drug" given in paragraph (*a*), is qualified by the word "medicinal"; therefore, only those substances or preparations used for medicinal purposes and recognized by the United States Pharmacopoeia are classified as drugs. That vitamins are used internally for the cure, mitigation, treatment, or prevention of disease in man cannot well be subject to serious doubt. Even plaintiff's experts agreed that a vitamin deficiency is or may be a disease and that when vitamins are prescribed for the treatment of such disease they are prescribed as a drug. The evidence sufficiently sustains the finding that the preparations under consideration come within the classification of subdivision (*b*). There is no dispute that vitamins are a part of much of the food necessary to maintain life and permit growth. The question raised by subdivision (*c*) is whether, since vitamins are component parts of food affecting the structure or function of the body of man, they may still be a drug when used to affect the structure or function of the body of man in a way that ordinarily is not true of food. The true test is: Can the preparations now under consideration affect the structure or function of the body of man or other animal in a way not ordinarily affected by the consumption of food? As so tested, said the court, we hold that the preparations again fall within the statutory requirements. These preparations not only are capable of use as food supplements, but may be used for other purposes consistent with the statutory requirement that they affect the structure and function of the body of man in a manner not affected by foods. The opinion of many eminent specialists in the field of medicine and chemistry called by defendants was that the vitamin products, involved are drugs. We conclude, said the Supreme Court, that they meet all the requirements of a drug set forth in the Minnesota statute.

The plaintiff next contended that, even if such products are drugs, they are exempt from the operation of the pharmacy act by reason of the fact that they are common household preparations and are sold exclusively for use for nonmedicinal purposes. The mere fact, said the court, that the products are harmless household remedies does not except the sale of the products from the operation of the statute unless they are also sold exclusively for nonmedicinal purposes. It is clear that the sale of the products here involved is not so limited. The evidence amply sustains the court's findings that they are not sold exclusively for nonmedicinal purposes; as a consequence, they do not come within this exception of the statute.

The plaintiff next contended that the drugs are exempt from the operation of the pharmacy statute by reason of the fact that they are not habit-forming and are harmless proprietary medicines. The evidence will not sustain the plaintiff's contention that all vitamins are harmless. But, even if we hold that the preparations are harmless if taken as directed, said the court, they are not proprietary medicines. While it is difficult to define proprietary medicines exactly, it is much less difficult to determine those preparations that are not proprietary medicines, and that is as far as we need go. Obviously, before a medicine can be classified as a "proprietary" medicine it must be implied that it has been compounded by a manufacturer who prepared the medicine according to some formula of his own. It does not follow that all drugs or medicines compounded by a manufacturer and sold in the original container under the name of the owner who prepared the substance are proprietary medicines. The products now under consideration are simply natural or synthetic vitamins of various kinds and combinations carried or contained in a neutral excipient. Any manufacturer having the requisite skill and equipment could prepare any one of the preparations involved or one of a very similar nature. Under these circumstances, it cannot be said that the product is a proprietary medicine.

Finally, the plaintiff contended that, if the Minneseota pharmacy act restricts to pharmacists the sale of vitamin products offered for sale as dietary supplements, the statute is unconstitutional. The Minnesota constitution provides "No person shall . . . be deprived of . . . property without due process of law." It also provides ". . . The legislature shall pass no local or special law . . . granting to any corporation, association or individual any special or exclusive privilege, immunity or franchise whatever, . . ." The constitutionality of our pharmacy act, said the Supreme Court, has been before this court in several cases and has been sustained in all of them. The act should be sustained if it has a reasonable tendency to protect the public health or welfare. There are many kinds of vitamins, all of which are intended to be taken for different purposes and deficiencies and for alleviation of different physical disabilities. Some are undoubtedly taken to prevent vitamin deficiencies and the physical disabilities that result therefrom. A pharmacist not only is in a better position to know where to procure a pure and genuine article, but also is equipped by training and education to know and advise prospective purchasers what products contain the vitamins they seek in the best combinations. The record shows that many vitamins lose their strength and vitality by exposure to light or adverse temperature. A pharmacist is equipped by training to know how best to preserve the beneficial qualities of these products. It is evident from the record that there is yet much to be learned about vitamins, particularly their mode of action. The legislature has already excepted many products from the operation of the pharmacy law. The time may come when medical research in this field will reach such a state of perfection that the legislature, in its discretion, may see fit likewise to except from the operation of the law preparations containing specified quantities of named vitamins that have been found to be harmless. For the time being, said the Supreme Court, we must be content to hold that pure and concentrated vitamins, natural or synthetic, prepared in the form of capsules, tablets, or liquids and carried either as a single vitamin or in combination with other vitamins in an excipient and so offered for sale to the public come within the definition of a drug in our pharmacy law and are not within any of the present exceptions thereto; as a consequence, they may not be sold or offered for sale in grocery stores. The pharmacy act, as applied to the facts now before us, is not so foreign to the protection of public health that it should be held to violate the constitutional provisions mentioned above.

Accordingly the declaratory judgment holding that vitamins may not be offered for sale in grocery stores was affirmed. *Culver et al. v. Nelson et al., 54 N.W. (2d) 7 (Minnesota 1952).*

BUSINESS PRACTICE

The following material is based on a public relations manual issued by the Public Relations Department of the American Medical Association.—ED.

OFFICE MANAGEMENT

There are two sides to the practice of medicine—the scientific side and the business side. Poor business practices often are at the bottom of patients' complaints about medical care and medical men. These might include: (1) poorly kept, inadequate records; (2) statements sent irregularly, sometimes incorrectly; (3) no follow-up on collections; (4) too much follow-up on collections; (5) unexplained charges; (6) use of unethical collection agencies; and (7) impersonal control of collection methods by untrained office personnel.

The physician who is systematic and business-like in the handling of office affairs of a nonmedical nature eliminates such public relations problems. Too often, business affairs are left to a secretary or are neglected. The physician who is indifferent to business matters soon finds that because he has kept inadequate records he not only is alienating patients but is in difficulty when tax collectors come around.

Medicine must never become a business, but there is a business side to medicine. Efficiency is nothing more than the operation of an office with a minimum of waste effort. Efficiency is good management—and good management is good public relations. To conduct a practice efficiently one must: 1. Have adequate space and facilities to treat all patients. 2. Employ adequate, qualified personnel. 3. Give careful attention to the business operation of the office. It is impossible to give patients satisfactory care unless there is sufficient office space and equipment. Some physicians set their sights too low when entering practice, taking the cheapest office location and trying to manage in cramped quarters with insufficient facilities. This is unwise. Some physicians wear themselves out by working in poorly arranged offices which could be easily redesigned for efficiency. Suggestions of sources of information on office lay-out and design can be secured from the state chapter of the American Institute of Architects.

A busy doctor should not try to do everything for himself. When he is busy, the first thing he neglects is his bookkeeping—a day-to-day task which should not be neglected. A doctor's records are the key to efficient management of his business. Carefully selected, well-trained (and adequately paid) personnel are public relations assets in the doctor's office.

Efficiency in the business operation of the office means that good records are kept, billing done systematically and regularly, and collections followed through. It means that letters are answered promptly, that insurance claims are filled out on receipt, that office bills are paid when due, that tax reports are filed promptly, and that attention is paid to all business details.

Assistance with the business side of medical practice can be obtained from professional management agencies throughout the country who specialize in helping physicians conduct their practices with efficiency, but it is not necessary to sign up for professional management services to adopt a few sound business practices.

MEDICAL LITERATURE ABSTRACTS

UNITED STATES

A.M.A. Am. J. Diseases Children, Chicago

86:131-264 (Aug.) 1953

- *Effect of Short-Term Administration of Corticotropin in Active Rheumatic Carditis. M. G. Wilson, H. N. Helper, R. Lubschez and others. —p. 131.
- Growth and Metabolism in Normal and Thyroid-Ablated Infant Rhesus Monkeys (Macaca Mulatta): III. Growth and Metabolism Following 1-Thyroxine Administration in Thyroid-Ablated Infant Rhesus Monkeys (Macaca Mulatta). D. E. Pickering and D. A. Fisher.—p. 147.
- Id.: IV.—Radiosodium (Na^{24}) Space in Normal and Thyroid-Ablated Infant Rhesus Monkeys (Macaca Mulatta). D. E. Pickering, D. A. Fisher and K. G. Scott.—p. 157.
- 14-Year Report of Facial Growth in Case of Complete Anodontia with Ectodermal Dysplasia. B. G. Sarnat, A. G. Brodie and W. H. Kubacki.—p. 162.
- Convulsive Effects of Light Stimulation in Children. R. G. Bickford, D. Daly and H. M. Keith.—p. 170.
- Surgical Treatment of Intussusception in Infants: Effect of Added Appendectomy. H. M. Richter Jr. and J. M. Silver.—p. 184.
- Endocardial Fibroelastosis: Report of Unusual Case with Impaired Ability to Fabricate Serum Proteins. B. E. Katz and F. H. Adams. —p. 186.
- *Congenital Myasthenia Gravis. R. P. Walker.—p. 198.
- Diarrhea of Allergic Origin: Review. P. E. Rothman.—p. 201.

Corticotropin in Active Rheumatic Carditis.—Wilson and associates present the results of the administration of corticotropin for 4 to 12 days to 28 patients in whom 32 attacks of active carditis occurred during the years 1949 to 1952. Seven patients who did not receive corticotropin served as controls. Antibiotic therapy was given to control intercurrent infections during the study period. The diet was salt-poor; fluids were limited to from 900 to 1,500 cc. Ascorbic acid was administered in doses of 150 mg. daily. Corticotropin was administered intramuscularly every six hours for an average period of seven days. The daily dosage varied from 1 to 5 mg. per kilogram of body weight. The following diagnostic criteria served to determine the presence of progressive symptoms and signs of active carditis: (*a*) the development of new systolic or diastolic murmurs, friction rub, or gallop rhythm; (*b*) progressive enlargement of cardiac chambers on fluoroscopic examination in the posteroanterior and oblique views at standard degrees of rotation; (*c*) diminishing cardiac reserve, i. e., dyspnea, decreased vital capacity, and enlarged or tender liver; and (*d*) electrocardiographic evidence of myocardial disturbance, i. e., prolongation of P-R interval, A-V dissociation, and T and ST changes. Active carditis was considered terminated when (*a*) there was fluoroscopic evidence of reversal of chamber enlargement and (*b*) new murmurs and friction rub disappeared and there was reestablishment of a normal cardiac reserve and return of the electrocardiogram to normal. Active carditis was considered to have recurred when any of the manifestations mentioned above were again observed. In all patients with active carditis of short duration, the progressive symptoms and signs were arrested during the first few days of corticotropin therapy, regardless of whether the corticotropin dosage was adequate or not. There was a recurrence of active carditis in the majority of patients who received inadequate therapy. Examination of 24 patients with active carditis who received adequate therapy revealed no overt clinical evidence of increased cardiac damage. There was reversal of chamber enlargement in 22 patients. Two patients with carditis of more than 10 days' duration, who did not exhibit progressive cardiac enlargement during the control period, showed no reversal of chamber enlargement. All patients were ambulatory within one to three weeks after therapy was discontinued. The cardiac status was maintained for 3 to 26 months, in the majority for more than 6 months. Of the eight patients who had inadequate therapy, five had a recurrence of active carditis. Three of the latter received a second course of corticotropin in adequate dosage, and, in two, carditis regressed spontaneously. The importance of early treatment is indicated by the failure to obtain reversal of cardiac enlargement in three patients with carditis of longer duration. Administration of corticotropin is followed by arrest and termination of active carditis without overt clinical evidence of residual cardiac damage, provided it is used before irreversible damage is sustained. The natural course of active carditis was favorably altered by decreasing both the severity and the duration of the attack.

Congenital Myasthenia Gravis.—According to Walker myasthenia gravis reaches its peak incidence in the third and fourth decades and is rare in the newborn. A survey of the literature revealed 17 cases of congenital myasthenia gravis. In 13 of these infants, the mother had myasthenia gravis and the infant had the typical picture. If these infants survive the neonatal period the disease disappears spontanously in a few days or weeks. It is possible that the mother's blood contains some substance that inhibits the formation of acetylcholine or accelerates its destruction. This substance is presumably destroyed or excreted by the infant during the neonatal period. Four reported cases of congenital myasthenia gravis were in children of nonmyasthenic mothers. The patient reported here belongs to this group. In such patients, the disease tends to be permanent. The patient whose case is reported was a 2-month-old girl who was hospitalized for the study of respiratory difficulty and inability to nurse. She was having considerable respiratory difficulty. The eyelids were slightly ptotic. There was a thin watery nasal discharge. The lips had a slight bluish tinge. The pharynx contained a large amount of watery secretions. The cry was feeble. Rhonchi were heard throughout the lung fields. Neurological examination showed hypoactive deep reflexes. Poliomyelitis, nuclear aplasia, amyotonia congenita, birth injury to the brain stem, and myasthenia gravis were considered. A therapeutic trial with neostigmine (Prostigmin) was begun. Within an hour respiration and expulsion of the secretions had improved considerably. She became more alert and active, and her partial ptosis disappeared. After much adjustment of the dosage schedule, the child was discharged four weeks after admission fairly well regulated on a regimen of 7.5 mg. of neostigmine bromide every eight hours, administered orally. Four days later she was readmitted; the dosage was modified to 5 mg. every four hours. At 8 months of age, she was still taking neostigmine and getting along fairly well.

A.M.A. Arch. Pathology, Chicago

56:103-230 (Aug.) 1953

- Comparative Study of Reaction to Injury: II. Hypervitaminosis D in Frog with Special Reference to Lime Sacs. H. G. Schlumberger and D. H. Burk.—p. 103.
- Effect of Injecting Rats with Homologous Renal Tissue Mixed with Adjuvants or Streptococci. E. Middleton Jr., E. B. Middleton and B. C. Seegal.—p. 12.
- Potassium Dichromate Poisoning and Repeated Poisoning with Uranyl Nitrate: Effect on Serum Lipids of Rabbits. F. C. Bauer Jr., E. F. Hirsch, L. Carbonaro and G. C. Johnson.—p. 135.
- Anomalous Origin of Left Coronary Artery from Pulmonary Artery (Bland-White-Garland Syndrome): Report of Two Cases. J. V. Denko and C. S. Hagerty.—p. 142.
- Cultivation of Viruses: Critical Review. M. Sanders, I. Kiem and F. Lagunoff.—p. 148.

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Titles marked with an asterisk (*) are abstracted.

American Journal of Ophthalmology, Chicago

36:895-1024 (July [Part 1]) 1953

Basement Membrane of Corneal Epithelium: Preliminary Report. C. C. Teng and H. M. Katzin.—p. 895.
Etiology of Narrow-Angle Glaucoma: Report of Case of Glaucoma Secondary to Anterior Displacement of Lens-Iris Diaphragm. O. Barkan.—p. 901.
Surgical Treatment of Glaucoma Complicating Congenital Aniridia. E. M. Blake.—p. 907.
Problem of International Nomenclature for Designating Visual Acuity. K. N. Ogle.—p. 909.
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Treatment of Cataract with Glaucoma: Consideration of Single as Well as Multiple Operative Technique. H. L. Birge.—p. 925.
Complications Following Cataract Extractions: Analysis of 1,001 Cataract Operations. A. A. Cinotti and J. H. Jacobson.—p. 929.
Atopic Keratoconjunctivitis. M. J. Hogan.—p. 937.
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Specific Vascular Lesions of Diabetes Mellitus: II. Retinopathy and Intercapillary Glomerulosclerosis. J. I. Goodman.—p. 957.
Progressive Senile Fibrillar Atrophy of Iris Stroma (Iridoschisis). L. F. Carter.—p. 967.
Hemangioma of Orbit: Report of Two Cases. E. C. Albers and V. R. Tokar.—p. 970.

American Journal of Pathology, Ann Arbor, Mich.

29:619-816 (July-Aug.) 1953. **Partial Index**

Nephrosclerosis and the Glomerulus. D. B. Jones.—p. 619.
Sudden Apparently Unexplained Death During Infancy: I. Pathologic Findings in Infants Found Dead. J. Werne and I. Garrow.—p. 633.
Pontine Hemorrhage in Intracranial Hypertension. W. S. Fields and B. Halpert.—p. 677.
Coronary Embolism in Bacterial Endocarditis. J. G. Brunson.—p. 689.
Minute Peripheral Pulmonary Tumors: Observations on Their Histogenesis. J. T. Prior.—p. 703.
Occurrence of Plasma Cells After Ionizing Irradiation in Dogs. F. J. Wohlwill and W. W. Jetter.—p. 721.
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Electron Micrographs of Erythrocytes from Swiss Albino Mice Infected with Herpes Simplex Virus (Strain P38). R. L. Reagan, W. C. Day and A. L. Brueckner.—p. 767.

American Journal of Psychotherapy, New York

7:415-628 (July) 1953. **Partial Index**

Principles of Group Psychotherapy. W. Goldfarb.—p. 418.
Meaning of Masochism. I. Bieber.—p. 433.
"Flight into Health." G. J. Train.—p. 463.
Some Observations on Selection of Patients for Psychosurgery and Psychotherapy After Operation. J. P. Cattell.—p. 484.

Am. J. Roentgenol. & Rad. Therapy, Springfield, Ill.

70:183-364 (Aug.) 1953

*Congenital Pulmonary Arteriovenous Aneurysm. R. D. Sloan and R. N. Cooley.—p. 183.
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*Roentgen Localization of Bronchopulmonary Segments by Means of Laminagraphy, Particularly in Lung Tuberculosis. H. Adler.—p. 218.
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*Roentgen Therapy of Malignant Lymphoma with Special Reference to Segmental Radiation Therapy: Results 1935-1945. J. F. Hynes and R. W. Frelick.—p. 247.
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Comparison of Reactions of Irradiated Parts of Bodies of Two Day Old Mice and Urodele Amphibians to Roentgen Treatment. V. V. Brunst, E. A. Sheremetieva-Brunst and F. H. J. Figge.—p. 283.

Congenital Pulmonary Arteriovenous Aneurysm.—A review of the literature revealed 85 cases of congenital arteriovenous aneurysm of the lung. Anatomically, pulmonary arteriovenous aneurysms were observed in any of the lobes of the right and left lung; 27 of the 85 patients had multiple lesions with involvement of two and more lobes, and 21 had lesions in both lungs. These lesions were hemangiomatous in nature; the majority were hemangiomas of cavernous type with large vascular channels permitting varying degrees of arteriovenous shunt. Physiological disturbances, when present, were secondary to the shunting of unoxygenated blood back into the left side of the heart with resultant anoxemia and a polycythemic response of varying intensity. Symptoms, when present, were usually due to the anoxemia and polycythemia and less commonly to the aneurysm itself. Many of the abnormal physical and laboratory findings were also secondary to the anoxemia; the only positive physical finding in connection with the aneurysm itself was the presence of a vascular murmur heard through the overlying lung and chest wall in 52 of the 85 patients. Roentgenologic findings revealed that large lesions are easily demonstrable on routine roentgenography, but small aneurysms and telangiectases can probably not be demonstrated by roentgenologic means. Laminagraphy and angiocardiography are the most definite roentgenologic methods available for accurate identification of pulmonary arteriovenous aneurysms. Surgical removal of an aneurysm appeared to offer the only logical method of definite therapy, and this was employed in 44 of the 85 cases reviewed. Between 1940 and 1952, 10 patients with clinically evident pulmonary arteriovenous aneurysm were observed at the Johns Hopkins Hospital. In one patient the diagnosis was established by necropsy and in six by surgical intervention. In the remaining two patients the diagnosis seems reasonably certain. Two patients were members of the same family.

Roentgen Localization of Bronchopulmonary Segments.—Many inflammatory changes in the lungs, and quite often localized pulmonary tuberculosis, are limited to the anatomic and functional unity of the bronchopulmonary segments. In most cases one is able to localize the pathological process by this simple and safe method. Ten bronchopulmonary segments are the apical segment, the posterior segment, the anterior segment, the middle lobe lateral segment, the middle lobe medial segment, the apical lower lobe segment, the medial basal (cardiac) segment, and the anterior, lateral, and posterior basal segments. A scheme is established to determine by laminagraphy to which of these segments a pathological process belongs. Judgment must be carefully made in processes located on the border of two segments and in cases of dislocation following shrinking. It is often possible to present laminagraphically the segmental bronchi in their longitudinal axis by adding a suitable oblique position. The pulmonary focus appears then in its characteristic shape; the cavities are usually oval in shape because of the traction carried out by the bronchovascular bundle. The laminagraphic appearance of pathological changes of the smaller bronchi is discussed. Aeration of the lumen and thickening and distention of the bronchial wall are the most remarkable signs thus obtained.

Roentgen Therapy of Malignant Lymphoma.—From 1935 to 1945, 52 consecutive patients with histopathologically proved malignant lymphoma were admitted to the Carpenter Memorial Clinic in Wilmington, Del. Of the 52 patients 4 had follicular lymphoblastoma, and 3 of these survived for from 6 to 13 years. Nineteen patients had lymphosarcoma with seven five year survivals. Nineteen had Hodgkin's disease with nine five year survivals. Five had reticulum cell sarcoma, of whom one survived for 10 years. The remaining five patients could not be classified, but their clinical course was that of malignant lymphoma, and none survived. Nineteen of the 52 patients survived more than five years after admission, an absolute five year survival rate of 36.5%. Six of 25 patients treated from 1935 to 1940 were alive and without recurrence at the end of 1950, a 10 year absolute survival rate of 24%. The consideration of several variants of malignant lymphoma together is justified by their similar clinical course and the identical therapy required. Roentgen rays, generated at 200 kv. (peak) with 0.5 mm. copper filtration, were used at 50 cm. target-skin distance for superficial lymph nodes and at 70 cm. for deep lymph nodes. The fields treated varied somewhat in size but averaged about 200 square centimeters each. Patients were treated five or six days weekly, at the rate of 100 to

200 roentgens through each of two such fields. Of the four techniques employed, namely segmental therapy (irradiation of all the major lymph node areas), partial segmental therapy (treatment to the lymph nodes of half the body, above or below the diaphragm), symptomatic therapy (treatment to the lymph nodes producing the most distressing symptoms), and local treatment to a single group of grossly diseased lymph nodes, the first one was used whenever possible and was applied to 23 patients. Originally only low doses were given, but the authors now believe that 1,000 to 1,200 r should be given to all fields and from 1,200 to 1,800 r to the grossly diseased lymph nodes. The plan of treatment provides for two opposing fields over the deep lymph nodes, while superficial lymph nodes are treated through one field only. Sufficient unirradiated bone marrow is present to prevent agranulocytosis if only half of the body is treated in one series, and after an interval of one to three months the other half of the body may safely be treated to complete segmental radiation therapy. Treatment to grossly uninvolved lymph nodes is necessary if long-term palliation or cure is to be obtained. Eight patients in good general condition, with apparently limited lymph node involvement, were not given adequate segmental irradiation, and subsequently had recurrence in untreated or lightly treated lymph nodes. Three of these are now well after further therapy, one is under treatment for recurrence, and four have died. These eight cases are described in detail. More aggressive treatment is recommended, and a tabulation of all 52 cases is included.

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Treatment of Sarcoidosis with Cortisone: Discussion as to Its Mode of Action. I. Kass, A. Jackson and M. Slavin.—p. 503.
Perforated Peptic Ulcer During Cortisone Administration. J. H. Kier, B. R. Gendel and J. R. Rich—p. 510.
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Use of Isopropyl Derivative of Isonicotinylhydrazine (Marsilid) in Treatment of Mental Disease. J. A. Smith.—p. 519.
Observations on Use of Sulfisoxazole (Gantrisin) in 1,000 Consecutive Patients, with Particular Reference to Frequency of Undesirable Side Effects. E. M. Yow.—p. 521.
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Angiology, Baltimore

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Endophlebohypertrophy and Phlebosclerosis: III. Left Innominate Vein and Superior Vena Cava. M. C. Littman, M. Lev and O. Saphir. —p. 301.
Aortography and Tumors of Liver: Preliminary Report. B. Milanés, J. McCook and A. L. Hernández.—p. 312.
*Treatment of Venous Thrombosis with Heparin. C. P. Artz and E. J. Pulaski.—p. 321.
*Effects of Ligation of Major Veins. L. T. Palumbo and R. E. Paul. —p. 337.
III. Hereditary Hemorrhagic Telangiectasia: Occurrence in the Negro. Relation to Blood Group. Effects of Rutin and Dicumarol Therapy. S. D. Kushlan.—p. 346.
Dissecting Aneurysm of Aorta: Report of Six Cases with Etiopathologic and Diagnostic Considerations. A. Jackson and M. Slavin.—p. 357.
Recurring Superficial Thrombophlebitis. R. B. Lynn.—p. 374.
Warfarin Sodium Derivative: (Coumadin® Sodium): Intravenous Hypoprothrombinemia-Inducing Agent. S. Shapiro.—p. 380.

Heparin in Venous Thrombosis.—Although it may be difficult to make a positive diagnosis of venous thrombosis in the early stage of the disease, treatment, in order to be successful, must be started at the first appearance of signs and symptoms. To delay it, in an attempt to make a more positive diagnosis, is to increase the morbidity and mortality rates. Since clinical experience with anticoagulant therapy has proved satisfactory, ligation of the inferior vena cava should be reserved for patients with septic thrombophlebitis, repeated pulmonary emboli, and pulmonary emboli occurring during anticoagulant therapy. In all other forms of deep venous thrombosis, anticoagulant therapy is recommended. Heparin is considered superior to bishydroxycoumarin (Dicumarol). The preferred method of administration of heparin (10 mg. per cubic centimeter) is by the intermittent intravenous technique (50 mg. of heparin every four hours). Concentrated heparin (200 mg. per cubic centimeter) is affective when given subcutaneously or intramuscularly, but subcutaneous injection is the preferred route of administration; this technique can be easily applied by nurses and does not cause discomfort to the patient. The preferred method of administration of heparin in gelatin (repository heparin) is 300 mg. given initially and 200 mg. given daily thereafter in the deep subcutaneous tissue on top of the deep muscle fascia. When it is necessary to terminate the anticoagulant effect of heparin after the administration of the drug in gelatin, an ice bag, fixed firmly with an elastic bandage over the site of the injection, will solidify the subcutaneous deposit of heparin in gelatin and arrest its absorption. Heparin therapy should be continued for several days after the patient is out of bed. It is believed that an increase in the coagulability of the blood occurs for one or two days after the termination of the heparin therapy. Unless heparin is continued until the patient is completely ambulatory, the formation of a new thrombus may occur after the cessation of the treatment.

Effects of Ligation of Major Veins.—Ligations of major veins were performed on 21 men between the ages of 26 and 72 years, most of them between the ages of 50 and 59, with a postphlebitic syndrome or an acute phlebitic process, with or without pulmonary infarctions. In 10 of the patients the inferior vena cava was ligated for control of repeated episodes of pulmonary infarction in 9 and for treatment of a postphlebitic syndrome in one. Of five patients in whom the common iliac vein was ligated, it was done for the treatment of a postphlebitic syndrome in four and for an acute phlebitic process in one. Of the remaining six patients, in five the superficial femoral vein was ligated bilaterally for control of repeated episodes of pulmonary infarction, and in the sixth it was done for control of an acute bilateral progressing phlebitis. The average follow-up for these patients was 462 days. Of the 21 patients 16 had had pulmonary infarctions that were clinically proven by roentgenograms; 12 of the 16 patients had had repeated episodes of infarction, and 4 had had only one such episode. Of the seven patients who had had pulmonary infarction during acute thrombophlebitis, it occurred during the first 10 days in four and after the 15th day in three. Recurrent infarction occurred in two patients after a major vein ligation. Of those two, one had a bilateral superficial femoral vein ligation on the seventh day after a transurethral resection of the prostate, and an inferior vena cava ligation was done because of the recurrent infarction. The other patient had a ligation of the left common iliac vein for the treatment of a postphlebitic syndrome of the left lower extremity. Sixteen days after this procedure he had a pulmonary infarction and 12 days later another infarction. This was followed by ligation of the inferior vena cava. There were no operative or postoperative deaths as a result of infarction or as a result of surgery. Hemorrhage was the chief operative and postoperative complication. Follow-up revealed slight restriction of activity in 9 of the 10 patients with ligation of the inferior vena cava, in 3 of the 5 with ligation of the common iliac artery, and in 1 of the 6 patients who had superficial femoral vein ligation. The patients who had a major vein ligation to prevent recurrent episodes of pulmonary infarction secondary to an acute thomboembolic process had less disablement and complaints than the group of patients who had a major vein ligation for a postphlebitic syndrome. Ligation of major veins to prevent recurrent episodes of pulmonary infarction is a lifesaving procedure and is usually not followed by enough disablement or impairment of function of the extremities to prevent the patients from returning to their previous occupations or adequate means of livelihood.

Annals of Surgery, Philadelphia

138:145-288 (Aug.) 1953

Operability in the Young and Aged. W. H. Cole.—p. 145.
Acute Vascular Injuries in Korean War: Analysis of 77 Consecutive Cases. E. J. Jahnke Jr. and S. F. Seeley.—p. 158.
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Appraisal of Surgical Treatment of Mitral Stenosis. E. S. Hurwitt, A. Bloomberg, R. Aaron and others.—p. 219.
*Liver Nodules Encountered at Laparotomy: Significance and Treatment. C. G. Mixter and C. G. Mixter Jr.—p. 230.
Evaluation of Celiac Ganglionectomy in Prevention of Experimental Peptic Ulcer. T. W. Holmes Jr.—p. 240.
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Thrombosis of Abdominal Aorta Treated by Thrombo-Endarterectomy: Case Report. J. P West, C. F. Schetlin and F. J. Schilling.—p. 259.
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Acute Pneumocholecystitis: Review and Report of Two Cases. L. G. Bell, R. B. Brown and H. F. Lenhardt.—p. 268.
Spontaneous Rupture of Kidney Tumors. J. Frumkin and S. Meigher. —p. 275.
Idiopathic Segmental Hemorrhagic Infarction of Greater Omentum. R. J. Tille Jr.—p. 279.
Adjustable Spring Clamp (Serrefine) for Cardiovascular Surgery. R. A. Nabatoff.—p. 285.

Liver Nodules Encountered at Laparotomy.—The Mixters stress that palpation in the liver for nodules or masses is an important part of the exploration of the abdomen prior to surgical treatment of the disease for which the laparotomy is performed. The size, shape, location, and consistency of such lesions will often give a clue to their true nature, yet these factors may also be misleading. Whereas the surgeon is very apt to submit for frozen section suspected metastases occurring elsewhere within the abdominal cavity, he is often prone to rely on his clinical impression where hepatic masses are concerned. To illustrate the importance and the difficulties of establishing an accurate diagnosis of liver masses discovered at laparotomy, the authors cite a number of cases seen by themselves or reported in the literature. Since clinical judgment as to the nature of hepatic nodules discovered at laparotomy is frequently in error, biopsy is indicated. The selection of the operative procedure and the prognosis must be based on the entire pathological picture, including the histological nature of the liver growth. Curative, rather than palliative, procedures should be carried out when biopsy or excision of nodules in the liver cannot be accomplished in otherwise operable extrahepatic malignant lesions. Isolated blood-borne metastases have been successfully removed from the lung, brain, and skeletal system, and evidence exists that solitary metastases also occur in the liver and that their removal is indicated when the primary tumor is controllable and there is no evidence of incurable spread elsewhere. Radical operative procedures of this type can be undertaken with the expectation that a number of patients will receive better palliation and that some will be cured.

Arizona Medicine, Phoenix

10:279-310 (Aug.) 1953

Thoracoplasty with Subscapular Paraffin Pack. W. M. Lees, R. T. Fox, M. Castellanos and others.—p. 279.
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Arkansas Medical Society Journal, Fort Smith

50:43-58 (Aug.) 1953

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Tumors of Brain and Spinal Cord in Children. O. T. Bailey.—p. 47.

Blood, New York

8:679-768 (Aug.) 1953

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*Bone Marrow Changes in Patients with Chronic Leukemia Treated by Splenic X-Irradiation: Preliminary Report. F. W. Gunz.—p. 687.
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Studies on Platelets: X. Morphologic Characteristics of Megakaryocytes by Phase Contrast Microscopy in Normals and in Patients with Idiopathic Thrombocytopenic Purpura. A. V. Pisciotta, M. Stefanini and W. Dameshek.—p. 703.
Further Studies on Hemoglobin C: I. Description of Three Additional Families Segregating for Hemoglobin C and Sickle Cell Hemoglobin. J. V. Neel, E. Kaplan and W. W. Zuelzer.—p. 724.
Id.: II. Hematologic Effects of Hemoglobin C Alone and in Combination with Sickle Cell Hemoglobin. E. Kaplan, W. W. Zuelzer and J. V. Neel. —p. 735.
Be, a New "Private" Blood Factor. I. Davidsohn, K. Stern, E. R. Strauser and W. Spurrier.—p. 747.
Splenic Aspirations in Multiple Myeloma. H. D. Shapiro and R. J. Watson.—p. 755.

Bone Marrow Changes After Splenic Irradiation in Leukemia.—The work reported by Gunz was undertaken with the aim of determining what changes take place in the bone marrow of leukemic patients in response to local irradiation of the spleen with roentgen rays. Studies were made on 15 patients with chronic myeloid leukemia and on 4 patients with other diseases. The bone marrow was usually obtained by sternal puncture, except in one patient whose iliac crest was punctured, and was carried out before and 80 minutes after the first and 24 hours after the last treatment. Patients were initially either untreated or had had no therapy during recent months. The site of aspiration was protected from stray radiation by means of lead rubber. Radiation factors varied from case to case, but all treatments were made with x-rays in the voltage range of 200,000 to 230,000. The investigation revealed two points: (1) changes in the composition of the bone marrow follow local x-irradiation of the spleen in some patients with chronic myeloid leukemia; and (2) inhibition of mitosis among the myeloid cells of the bone marrow can follow local irradiation of the spleen in these same patients although precautions have been taken to protect the marrow from direct irradiation. Of these two points the first is not unexpected considering the nature of the usual clinical response to splenic irradiation in patients with chronic myeloid leukemia; this consists not only of an involution of the enlarged spleen but also of a reduction in the raised number of myeloid cells in the peripheral blood and generally an increase in the red blood cell count. Mitotic inhibition in the marrow 80 minutes after irradiation of the spleen has not hitherto been described and if confirmed would constitute evidence in favor of that "indirect" action of x-rays in leukemia that has so frequently been suggested but not as yet satisfactorily demonstrated. Doses of direct (stray) irradiation received over the site of marrow aspiration were measured and found to vary between 1 and 3 r. Doses of this magnitude are not sufficiently high to produce mitotic inhibition in leukemic leukocytes. Moreover, no inhibition was noted among the erythroid cells. It appears unlikely, therefore, that the effect was caused by direct irradiation of the bone marrow. It is more probable that the action of the x-rays on the spleen was indirectly responsible. The mitotic inhibition was temporary. It could not be shown 24 hours after the last treatment in any of the cases investigated. The percentage of mitoses in leukemic marrow does not usually exceed that in normal marrow so that a permanent depression of the number of mitoses as a result of x-ray treatment is not likely.

Florida Medical Association Journal, Jacksonville

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Georgia Medical Association Journal, Atlanta

42:361-394 (Aug.) 1953

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Geriatrics, Minneapolis

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Journal of Gerontology, St. Louis

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Journal of Investigative Dermatology, Baltimore

21:69-130 (Aug.) 1953

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Isoniazid in Treatment of Sarcoidosis: Preliminary Report. E. Edelson. —p. 71.
*Treatment of Chronic Discoid Lupus Erythematosus with Large Doses of Vitamin B_{12}. M. D. Marcus, A. H. Conrad Jr. and R. S. Weiss. —p. 75.
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Treatment of Lupus Erythematosus with Mepacrine (Atabrine). G. Harvey and T. Cochrane.—p. 99.
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Clinical Assay of New Fungicide, P-594 (2-Nitro-2-Bromo-1-Methoxy-1-Phenylpropane). W. E. Wooldridge.—p. 121.
Effect of Di-Paralene (Chlorcyclizine Hydrochloride) on Systemic Fungous Infections in Mice. W. J. Fahlberg.—p. 125.

Large Doses of Vitamin B_{12} in Discoid Lupus Erythematosus.—Seventeen cases of chronic discoid lupus erythematosus were treated with vitamin B_{12} in doses of 1,000 mcg. three times weekly. The treatment was painless and without side reactions, but most patients showed no change. Three showed very favorable response and some showed slight improvement. The results were inferior to those obtained with gold and bismuth salts. Vitamin B_{12} therapy has been discontinued for routine use.

Journal of Nervous and Mental Disease, New York

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Journal of Pediatrics, St. Louis

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*Clinical Study of Neuroblastoma. O. J. Oberkircher, W. J. Staubitz and F. J. Parmenter.—p. 177.
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Osteochondroma of Distal Femoral Epiphysis. J. S. Donaldson, H. H. Sankey, B. R. Girdany and W. F. Donaldson.—p. 212.
Early Development of Children with Schizophrenia. H. Bakwin.—p. 217.

Clinical Study of Neuroblastoma.—Oberkircher and associates have observed an unusual case of neuroblastoma since 1936. When the infant was 10 months old, the mother discovered a mass in the left upper abdomen that rapidly increased in size. One month later, hematuria and abdominal pain developed. Retrograde pyelography revealed a large mass in the region of the left kidney. A transperitoneal exploratory operation revealed a nonremovable tumor of the left kidney. Biopsy material was interpreted as Wilms' tumor. A series of roentgen ray treatments was given, and several months later a second attempt to remove the tumor failed. In succeeding years several additional series of roentgen treatments were given. At the age of 12 when the girl began to menstruate she still had a hard, fixed nodular tumor in the abdomen. The pathological material removed by biopsy in 1936 and then interpreted as Wilms' tumor of the kidney has recently been reexamined. The present diagnosis is neuroblastoma. The patient is now 17 years old, and her general condition is excellent. This case stimulated the authors to analyze the other cases of neuroblastoma at the Roswell Park Memorial Institute and the Buffalo Children's Hospital. On reviewing the 20 additional cases they were deeply impressed by the lack of response to treatment and the early fatal outcome in most of the cases. Neuroblastoma is one of the most frequent retroperitoneal malignant tumors in infants and children. In this series of 21 cases the primary tumor occurred in several areas of the sympathetic nervous system. Ten tumors were primary in the right adrenal. There were six involving the left adrenal. The remaining source of primary tumors were the thoracic sympathetic chain, 2; right kidney, 1; dorsal sympathetic chain, 1; and unknown, 1. The sex incidence is almost equal. Beside the patient who is now 17 years old and apparently well, another patient has survived five years and five months and at present is alive and well without evidence of disease. A third patient has lived one year and eight months since the diagnosis was established. This 19-year-old girl is alive and well at present. Apparently there is no adequate therapy for the neuroblastoma composed of immature cells. These malignant cells spread widely and rapidly, and the metastases make the outlook hopeless. Early surgery and irradiation are helpful in neuroblastomas composed of more mature cells. These tumors are more encapsulated and tend to remain localized. Bone marrow aspiration is of definite value both for diagnosis and prognosis. Nitrogen mustard offers very little in the therapy of this disease. When anemia, fever, loss of weight, and a palpable abdominal mass are present in an infant, one must be suspicious of neuroblastoma. This lesion is the commonest retroperitoneal malignant tumor in infants and young children.

Journal of Urology, Baltimore

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*Surgery of Adrenal Gland for Cushing's Syndrome. E. F. Poutasse and C. C. Higgins.—p. 129.
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Late Renal Complications of Paraplegia: III: Treatment of Vesico-Ureteral Reflux by Skin Ureterostomy Through a Pedicle Trap. H. S. Talbot, D. P. Paull and G. R. Read.—p. 216.
Spinal Root Section in Treatment of Advanced Paraplegic Bladder. H. Brendler, E. G. Krueger, P. Lerman and others.—p. 223.
Sacral Neurotomy for Spastic Neurogenic Bladder. J. F. Patton and H. G. Schwartz.—p. 230.
Conservative Surgery in Treatment of Large Single Papillary Tumors of Bladder. D. R. Higbee.—p. 237.
Surgical Treatment of Tumors of Genito-Urinary Organs. A. L. Dean.—p. 246.

Surgical Treatment of Adrenal Gland for Cushing's Syndrome.—It is now generally believed that all patients with Cushing's syndrome have hyperadrenocorticism with excess production of 11-oxysteroids. Of 19 female and 9 male patients between the ages of 18 months and 58 years with Cushing's syndrome admitted to the Cleveland Clinic since 1933, 2 had a malignant adrenal cortical tumor, 4 had a solitary adenoma of the adrenal gland, 2 had small adenomas occurring in otherwise hyperplastic adrenal glands, and the remaining 20 patients had normal or enlarged adrenal glands. The range in weight of adrenal tissue removed from these 20 patients varied from 2.5 to 27 gm. per gland, while the average weight of the adrenal gland from a normal person is considered to be between 2.5 and 7 gm. In three out of four cases Cushing's syndrome was due to adrenal hyperfunction with or without hyperplasia of the gland; the remaining patients had either a benign or malignant cortical tumor. Rarely, the initiating cause of the syndrome is a basophilic pituitary tumor. Most of the features of Cushing's syndrome can be produced by the prolonged administration of adrenocorticotropic hormone (ACTH), which stimulates the adrenal gland, or large doses of cortisone or hydrocortisone (Compound F). The diagnosis of Cushing's syndrome depends on clinical observations supported by laboratory evidence. Roentgenographic studies are helpful in locating a sizeable adrenal tumor but not a small one. Consequently, simultaneous bilateral adrenal exploration should be performed. Treatment consists of excision of a tumor if present or subtotal adrenalectomy. The operation can be done on both adrenals simultaneously without undue risk. All patients should be given a protective dose of cortisone, 100 mg. intramuscularly about 12 hours before surgical intervention, and this should be repeated a few hours before the operation. Doses of about 50 mg. of cortisone should be given every 6, 8, or 12 hours after the operation depending on necessity. There is usually sufficient desoxycorticosterone-like action in cortisone to supply the daily need of this hormone in most patients; it may be necessary to give desoxycorticosterone in doses of 1 to 3 mg. daily to patients who have low serum sodium values not sustained by added salt in doses of 4 to 6 gm. daily as enteric coated salt tablets. At present it is not considered necessary to perform bilateral total adrenalectomy unless the disease is progressive after subtotal adrenalectomy (with about 90% of adrenal tissue removed) and a threat to life. With adequate resection of adrenal tissue the skin of the patient becomes normal in color and texture, hirsutism disappears, muscles strengthen, obesity vanishes, menstruation returns in women, glucose tolerance tests return to normal, and patients with diabetes show improvement. Osteoporosis does not show the same rate or degree of improvement, and hypertension does not always improve after subtotal adrenalectomy. Results were encouraging in eight patients with Cushing's syndrome owing to adrenal cortical hyperplasia treated in the last year and a half since cortisone came in use. One required secondary total adrenalectomy for control of the disease, and one patient was improved but died nine months after operation because of shock from an uncontrolled duodenal ulcer hemorrhage. The remaining patients are all improved or have too short a follow-up to be of value.

J. Pharmacology & Exper. Therap., Baltimore

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Value of Ammonium Chloride as Adjuvant to Mercurial Diuretics Determined by Bioassay in Patients with Congestive Failure. T. Greiner, H. Gold, L. Warshaw and others.—p. 481.

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22:391-448 (Aug.) 1953

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*Retroperitoneal Tumor as Cause of Low Back and Leg Pain. G. W. Anderson and B. J. Alpers.—p. 553.
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Relationship of Homologous Brain Proteolipid to Allergic Encephalomyelitis in Guinea Pigs. N. P. Goldstein, L. C. Kolb, H. L. Mason and others.—p. 609.

Retroperitoneal Tumor as Cause of Low Back and Leg Pain.—Anderson and Alpers report on four patients to define the neurological features by which tumors in the retroperitoneal space may be recognized. The first patient experienced a sharp pain in the low back on attempting to lift a heavy log. The original sharp pain was replaced by a constant dull ache, aggravated by standing and radiating into both groins and into the right leg. The right kidney was enlarged, and intravenous urography revealed upward displacement of the right kidney. Necropsy established a retroperitoneal lymphosarcoma. The second patient had a history of back pain radiating into the right groin and testicle and accompanied by an aching in the anterior and lateral aspects of the right thigh. In spite of the lateral deviation of the upper portion of the right ureter and upward displacement of the right kidney, the diagnosis was not made at the time of his first examination. Because of the persistence and progression of his complaints, the urograms were repeated and revealed more lateral and upward displacement of the right ureter and kidney and, in addition, a definite bulging of the right border of the psoas muscle. Operation revealed a retroperitoneal fibrosarcoma. The third patient had right back and leg pain. She was suspected of having involvement of the roots of the right sciatic nerve by an intervertebral disk, but myelography was normal. After further progression of symptoms, roentgenographic evidence of a calcifying, eroding tumor was found in the right sacrum. In the fourth patient, the diagnosis was made on the basis of clinical findings. Because of spread of pain beyond the limits of the sciatic distribution, the absence of the patellar reflex, and the evidence of testicular and scrotal swelling, further studies led to a diagnosis of retroperitoneal tumor involving the right psoas muscle and extending into the right lumbosacral plexus. Operation revealed epidermoid carcinoma obstructing the right ureter and involving the right psoas muscle. On the basis of over 500 cases of retroperitoneal tumors reported in the literature, the usual symptoms of such tumors consist of vague digestive disturbances, progressive weight loss, weakness, constipation, urinary frequency and urgency, and complaints of abdominal swelling. Less common are pain in the lower abdominal quadrants, edema of the lower limbs, weakness with muscular atrophy of the leg, difference in surface temperature of the extremities, and back and accompanying leg pain. Although diagnosis of retroperitoneal tumor is ordinarily made on other than neurological features, there are instances in which neurological symptoms predominate.

New England Journal of Medicine, Boston

249:215-260 (Aug. 6) 1953

*Heart in I^{131}-Induced Myxedema: Comparison of Roentgenographic and Electrocardiographic Findings Before and After Induction of Myxedema. G. S. Kurland, R. E. Schneckloth and A. S. Freedberg.—p. 215.
Cerebral Circulation and Metabolism in Arteriosclerotic and Hypertensive Cerebrovascular Disease: With Observations on Effects of Inhalation of Different Concentrations of Oxygen. A. Heyman, J. L. Patterson Jr., T. W. Duke and L. L. Battey.—p. 223.
*Nor-Epinephrine in Treatment of Acute Meningococcemia with Shock (Waterhouse-Friderichsen Syndrome) and an Evaluation of Adrenocortical Function. H. S. M. Uhl.—p. 229.
Medicine's Number One Problem. H. A. Rusk.—p. 232.
Medical Management of Peripheral Arterial Occlusive Diseases. S. Wessler.—p. 233.

Heart in Myxedema.—Changes in the size and configuration of the shadow picture of the heart in 27 patients with heart disease and variations in the electrocardiogram in 28 patients with intractable angina pectoris or congestive heart failure were studied before and for 2 to 53 months after the occurrence of myxedema that was induced in each patient by one or more doses of radioactive iodine (I^{131}). All patients were distinctly hypothyroid and were maintained at basal metabolic rates of -15 to -25% on 6 to 90 mg. of desiccated thyroid daily. Alterations in heart size and electrocardiographic pattern were correlated with the level of hypometabolism as determined by the clinical state, basal metabolic rate, serum cholesterol, thyroid uptake of tracer doses of I^{131}, and serum protein-bound iodine. Ten of 13 patients who experienced striking or significant relief of angina pectoris after induction of hypothyroidism showed no increase in cardiac size after 2 to 48 months of hypometabolism. Two others presented no enlargement of the heart in 26 and 38 months of hypometabolism during which a good or excellent therapeutic result was obtained; subsequently, cardiac enlargement was noted in these cases during an exacerbation of angina pectoris and congestive heart failure. Five of six patients with angina pectoris not benefited by I^{131} therapy showed a progressive increase in the size of the heart. Six patients with chronic congestive heart failure showed no cardiac enlargement during most of 19 to 53 months of hypometabolism. In two patients an increase in the size of the heart was observed only shortly before death after 22 and 31 months of hypothyroidism, during which definite therapeutic improvement was experienced. In two patients with both angina pectoris and congestive heart failure, radioactive iodine-induced myxedema was followed by striking therapeutic benefit despite the progressive cardiac enlargement. The development of myxedema was accompanied by a decrease in electrocardiographic voltage, flattening or inversion of T-waves, and a slight decrease in the QT interval. Changes in the electrocardiogram regressed after the administration of small doses of thyroid. Thereafter, despite the hypometabolism for months or years, no further progression in the electrocardiographic pattern occurred. The data indicate that the "myxedema heart," in the sense of a condition precipitating angina pectoris or congestive heart failure or accompanied by pronounced electrocardiographic and roentgenologic changes, does not occur in patients with prolonged, controlled radioactive iodine-induced hypothyroidism.

Treatment of Meningococcemia.—A classic case of acute meningococcemia with shock (Waterhouse-Friderichsen syndrome) is described in a 17-year-old boy. An intravenous infusion of arterenol (Nor-Epinephrine) in a concentration of 4 mg.

per liter of 5% dextrose solution was used successfully over 60 hours to combat peripheral vascular collapse. Physiological studies of adrenocortical function during the acute stage of the illness and after recovery indicated no failure of the adrenal cortex, even in the presence of shock, which responded to arterenol but not to parenteral adrenocortical replacement therapy with aqueous lipoadrenal extract. There was probably no serious impairment of the tested adrenocortical function during the acute phase of the illness of the author's patient. Thus the pathogenesis of the peripheral vascular collapse in the Waterhouse-Friderichsen syndrome remains an unsolved problem. The use of a continuous infusion of arterenol was probably a life-saving measure and prevented irreversible shock and serious renal damage from prolonged ischemia. It is suggested that the use of this vasopressor agent be considered in all cases of septicemia with peripheral vascular collapse, especially when adequate trial with blood transfusions, plasma, fluids, and adrenal substitution therapy has been unsuccessful in forestalling shock.

249:261-302 (Aug. 13) 1953

*Laboratory and Clinical Experience with Carbomycin. W. L. Hewitt and J. P. Wood Jr.—p. 249.

Histoplasmosis in Life-Long Resident of New England. E. E. French, O. F. Jillson and L. S. Crispell.—p. 270.

*Acute Renal Insufficiency Due to Bichloride of Mercury: Observations on Gastrointestinal Hemorrhage and BAL Therapy. P. D. Doolan, W. C. Hess and L. H. Kyle.—p. 273.

Effect of Aging of Population on General Health Problems. R. T. Monroe.—p. 277.

Experience with Carbomycin.—The greatest activity of carbomycin (Magnamycin), a new antibiotic produced by the Streptomyces halstedii, is against gram-positive bacteria. This activity is greater than that of oxytetracycline (Terramycin) but less than that of penicillin. Some strains of Staphylococcus aureus develop resistance to carbomycin readily, and there is a high degree of cross resistance with erythromycin. Studies were made on adults with normal heart, liver, and kidney functions to whom carbomycin was given. Oral doses smaller than 500 mg. did not produce any antibacterial activity in the serum. But detectable serum concentrations were found in two-thirds of the persons who received it orally in doses greater than 500 mg. and in almost all those who received it intravenously in doses of 400 mg. diluted in 20 cc. of isotonic sodium chloride solution. The drug was always recovered from the urine in total amounts equal to 0.5 to 2.5% of the dose administered. The authors used carbomycin to treat 57 patients with acute infections due to the pneumococcus and to alpha-hemolytic, beta-hemolytic, and nonhemolytic streptococci. A daily dose of 2 gm. was used except for a few more acutely ill patients who received 3 gm. daily for several days or 400 mg. intravenously every 6 to 8 hours for from 24 to 96 hours. Good results were obtained in 34 of these patients. They were good in those with acute bronchitis; the temperature returned to normal within 24 hours and the sputum improved more gradually. There was a good clinical response in patients with acute follicular tonsillitis. The effects were poor in patients with subacute bacterial endocarditis, and there was no definite symptomatic improvement in those with urinary tract infections due to the streptococci faecalis and pyogenes. The response in patients with staphylococcal sepsis was not striking, and it was poor in patients with pneumonia whose sputum revealed Hemophilus influenzae. The bacterial colonies were increased in five of the last-named patients during the therapy. Side-effects consisting of gastrointestinal disturbances and skin eruptions occurred in 15 patients, but they were never severe. There was no clinical evidence of central nervous system toxicity or changes in reflexes. At present the use of carbomycin should be limited to those patients who are hypersensitive to penicillin or the newer antibiotics and to those with infections that have proved, or are frequently, resistant to penicillin, chlortetracycline (aureomycin), and oxytetracycline. An initial dose of 500 mg. (the maximum tolerated dose) every six hours should be given at once and, when possible, it should be supplemented initially with parenteral administration of the drug.

Bichloride of Mercury Poisoning and BAL Therapy.—A 28-year-old woman with a history of normal heart and kidney functions was hospitalized in a state of mild shock 2½ hours after she had ingested four tablets (2 gm.) of bichloride of mercury. Severe gastrointestinal bleeding was present, and both the fecal material and the vomitus gave a positive test for blood. About 240 cc. of brown, guaiac-positive urine was removed. Oxygen and parenteral administration of fluid cleared the shock-like state. Dimercaprol (BAL) was given three hours after she had ingested the tablets. Progressive acidosis and uremia developed, and early signs of potassium intoxication appeared. The gastrointestinal bleeding became massive. Dimercaprol and fresh blood transfusions, chlortetracycline (aureomycin), vitamin K, corticotropin, pyribenzamine, rutin, ascorbic acid thrombin, and absorbable gelatin sponge (Gelfoam) had no obvious effect on the bleeding or on the results of hematological studies. A forced dilution therapy was initiated, and the patient was given excessive quantities of fluids. The blood urea nitrogen level was lowered and the hemorrhage was brought under control. During the fluid therapy, the urine volume increased and 84 gm. of total nitrogen were excreted in 72 hours. There was a dramatic clinical improvement. The patient was discharged 56 days after admission. Follow-up examinations during three months revealed no significant gastrointestinal abnormalities other than a low specific gravity of the urine. The exact cause of bleeding in uremic gastroenteritis is still unknown. The excretion of urea into the gastrointestinal tract, the action of the intestinal bacteria, and the generalized bleeding tendency associated with the uremic syndrome are important factors. According to some authors, the bleeding is caused by the excretion of urea into the gastrointestinal tract. Here it is hydrolyzed by the intestinal bacteria into ammonia and carbonic acid, and it is the resulting ammonium carbonate that directly damages the mucosa. Dimercaprol should be given as early as possible to patients with bichloride of mercury poisoning. An initial intramuscular injection of 300 mg. followed by two or three 150 mg. injections during the first 12 hours and one or two such injections in the next 12 hours is the best plan of therapy. Then 150 to 300 mg. may be administered for one or two more days depending on the patient's condition. Whether therapy with dimercaprol should be continued after oliguria develops remains to be established. The authors discontinue it if the patient's condition permits. Otherwise they continue it with doses reduced to 75 to 100 mg. daily in two or three divided doses. Administration of the drug is then immediately discontinued if any toxic reaction appears. Forced fluid therapy is indicated in the presence of severe hemorrhage and impaired renal function in order to rapidly lower the blood urea nitrogen. Adequate amounts of dimercaprol given as soon as possible and combined administration of large quantities of fluid should reduce to a minimum the occurrence of renal failure.

New Jersey Medical Society Journal, Trenton

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Advances in Treatment of Gout. P. J. Warter.—p. 328.

Butazolidin® in Treatment of Arthritis: Clinical Studies with Phenylbutazone. J. A. Strazza Jr. and M. Ressetar.—p. 333.

*Perforated Gastric Ulcer During Cortisone Therapy for Rheumatoid Arthritis: (Report of Case). R. Kerdasha.—p. 343.

Chloride Test in Drownings and Death Due to Other Causes. G. F. Kamen.—p. 346.

Prevention of Athletic Injuries in High School. M. M. Novich.—p. 350.

Perforated Gastric Ulcer During Cortisone Therapy.—Kerdasha reports the case of a man, aged 63, in whom perforation of a gastric ulcer occurred while he was receiving cortisone therapy for rheumatoid arthritis. There was no proof that the ulcer did not exist prior to cortisone therapy. However, the initial appearance of an acute perforation 21 days after the start of cortisone administration in a patient who had no prior gastrointestinal symptoms suggests that the ulcer developed after therapy was begun. The most striking features were the patient's good general appearance, his feeling of well-being, and the moderately severe pain in the presence of a board-like abdomen due to peritoneal irritation of some 19 hours' duration. Operation disclosed a partially sealed perforation in the anterior antral portion of the stomach. The perforation was closed with interrupted atraumatic absorbable surgical sutures; a tag of omentum was tied over the repaired area. The peritoneal cavity was thoroughly aspirated. The incision was closed without drainage. The patient did well; he was given 500 cc. of blood after the operation and made an uneventful recovery. Penicillin and streptomycin were given in 300,000 units and 0.5 gm. doses twice a day for five days. Extreme caution is urged in the use of adrenocortical steroids in the treatment of disease, particularly if associated with peptic ulcer.

North Carolina Medical Journal, Winston-Salem

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- Study on Therapeutic Evaluation of Isoniazid in Treatment of Pulmonary Tuberculosis. C. Ertug, H. F. Easom and H. S. Willis.—p. 278.
- Technique of Saphenous Vein Stripping. A. Webb Jr.—p. 283.
- *Experiences in Transporting Children with Head Injuries.* M. H. Grimmett.—p. 286.

Oklahoma State Medical Assn. J., Oklahoma City

46:167-204 (July) 1953

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- Wilms's Tumor of Infancy and Childhood. W. Benzing Jr.—p. 173.
- Middle Life and Mental Disease. F. J. Braceland and W. W. Zeller.—p. 177.
- Choice of Operation in Carcinoma of Rectum and Rectosigmoid. W. A. Fansler.—p. 183.

46:205-234 (Aug.) 1953

- Varicose Veins in Lower Extremities: Review of This Condition. J. P. Wolff.—p. 207.
- Use of Anticoagulants in Coronary Artery Disease. C. S. Huntington.—p. 210.

Pediatrics, Springfield, Ill.

12:99-232 (Aug.) 1953

- Effects of Witholding Fluid in Immediate Postnatal Period. J. D. L. Hansen and C. A. Smith.—p. 99.
- Evaluation of Skeletal Age Method of Estimating Children's Development: I. Systematic Errors in Assessment of Roentgenograms. D. Mainland.—p. 114.
- Endocardial Fibroelastosis. J. L. Dennis, A. E. Hansen and T. N. Corpening.—p. 130.
- Changing Patterns of Respiration in Newborn Infants. H. C. Miller and F. C. Behrle.—p. 141.
- Studies of Immunology of Newborn Infant: IV. Antibody Formation in Premature Infant. J. Dancis, J. J. Osborn and H. W. Kunz.—p. 151.
- Absorption of Fat and Vitamin A in Premature Infants: III. Effect of Surface Active Agents on Absorption of These Substances. S. E. Snyderman, S. Morales, A. W. Chung and others.—p. 158.
- Studies in Disorders of Muscle: IX. Glycogen Storage Disease Primarily Affecting Skeletal Muscle and Clinically Resembling Amyotonia Congenita. W. Krivit, W. J. Polglase, F. D. Gunn and F. H. Tyler. p.—165.
- Bronchial Obstruction with Lobar Atelectasis and Emphysema in Cystic Fibrosis of Pancreas. P. A. di Sant'Agnese.—p. 178.
- Absorption of Vitamin A Aldehyde by Children. C. P. Katsampes, A. B. McCoord, R. N. Hamburger and S. W. Clausen.—p. 191.

Pennsylvania Medical Journal, Harrisburg

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- Antibiotics and Intestinal Flora with Study of Terramycin Effect on Intestinal Flora. R. R. Tyson, E. H. Spaulding, G. P. Rosemond and J. A. Casey.—p. 627.
- Acute Infectious Hepatitis. C. R. Schaefer.—p. 630.
- Management of Patient with Ureteral Calculus. W. I. Buchert, H. E. Brown and G. H. Jones.—p. 633.
- Vaginal Discharge: Diagnosis and Management in General Practice. J. A. Hepp.—p. 640.
- *Multiple Curling's Ulcers Involving Esophagus, Stomach, and Duodenum. F. A. Bothe and R. B. Magee.—p. 642.
- Surgical Treatment of Pulmonary Disease. G. M. Sanes.—p. 645.

Multiple Curling's Ulcer.—Bothe and Magee report the case of a 68-year-old woman who had been scalded in a bath tub and who had sustained second and third degree burns of the buttocks, perineum, and posterior portions of both lower extremities, including the feet. The patient had lived in a nursing home for nine years because of flaccid paralysis of the left arm and leg, extensive hypertrophic arthritis, and generalized arteriosclerosis. She had no gastrointestinal symptoms prior to admission to the hospital. The shock was treated, and pressure dressings were applied to the burns to preserve tissue fluid, but after the fifth day the burns were treated by the open method. On the 33rd hospital day, the patient vomited 220 cc. of dark blood. Small amounts of hematemesis followed daily. This bleeding was attributed to a Curling's ulcer, and medical management was instituted. She failed to respond to treatment. Bronchopneumonia developed, and the woman died on the 44th hospital day. At autopsy, it was found that the esophagus was coated with blood. The mucosa at the junction of the esophagus and stomach was eroded over an area of approximately 1.5 cm. The lesser curvature of the stomach contained a 2.5 cm. ulcer. Numerous ulcerations were present over the lateral walls and lesser curvature of the stomach from cardia to antrum. A single ulcer approximately 1 cm. in diameter lay astride the pylorus. Distal to this the gastrointestinal tract was normal. A diagnosis of multiple Curling's ulcer was made. This case is noteworthy not only because of the presence of multiple ulcers but because this extensive ulceration did not make itself known until the 33rd day after the burn, which is much later than Curling's ulcer usually appears. The occurrence of this type of ulceration in a person with long-standing hemoconcentration, in whom death was finally attributable to pulmonary emboli, suggests that embolic phenomena may be responsible for Curling's ulcerations.

Physiological Reviews, Baltimore

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- Body Fat in Adult Man. A. Keys and J. Brožek.—p. 245.
- Neural Transmission in Invertebrates. C. A. G. Wiersma.—p. 326.
- Biochemical Aspects of Radiation Syndrome. M. G. Ord and L. A. Stocken.—p. 356.
- *Passage of Molecules Through Capillary Walls.* J. R. Pappenheimer.—p. 387.
- Physiology of Calcium Metabolism. R. Nicolaysen, N. Eeg-Larsen and O. J. Malm.—p. 424.

Plastic & Reconstructive Surgery, Baltimore

11:1-98 (July) 1953

- Crouzon's Deformity with Hyperostosis Frontalis Interna. S. Moore, A. M. Moore and J. B. Brown.—p. 1.
- Tumors of Head and Neck in Infancy, Childhood, and Adolescence. K. L. Pickrell, F. W. Masters, N. G. Georgiade and C. E. Horton.—p. 10.
- *Uncontrollable Factors in Rhinoplasty. J. Safian.—p. 24.*
- Further Developments in Treatment of Skin Lesions by Surgical Abrasion. P. C. Iverson.—p. 27.
- Robert Abbe and His Contributions to Plastic Surgery. R. B. Stark.—p. 41.
- Extensive Recurrent Desmoid Tumor of Abdominal Wall: Radical Excision Followed by Reconstruction of Abdominal Wall with Plastic Procedure: Report of Case. R. C. Ye, K. D. Devine and J. W. Kirklin.—p. 59.
- Coverage of Thoracic Wall Defects by Split Breast Flap. W. J. Whalen.—p. 64.
- Observations on Development of Circulation in Skin Grafts. V. Effect of an Anticoagulant (Dicumarol) on Homologous Skin Grafts. H. Conway, R. B. Stark and D. Joslin.—p. 74.
- Id.: VI. Effect of Hyaluronic Acid and Homologous Skin Filtrate on Homologous Skin Grafts. H. Conway, R. B. Stark and D. Joslin.—p. 77.
- Two-Stage Operation for Dupuytren's Contracture with Report of 38 Cases. F. L. Ashley.—p. 79.
- Malignant Change in Keloids. C. E. Horton, J. Crawford and R. S. Oakey.—p. 86.

Postgraduate Medicine, Minneapolis

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- Surgical Considerations of Certain Hip Lesions. F. N. Potts.—p. 91.
- Operation for Coronary Artery Disease. C. S. Beck.—p. 95.
- Kaposi's Sarcoma (Angioreticulomatosis). F. Ronchese and A. B. Kern.—p. 101.
- Surgical Aspects of Jaundice. W. H. Cole.—p. 112.
- Aphasia—Etiology and Classification. L. J. Karnosh.—p. 118.
- Diagnosis of Multiple Sclerosis. H. D. Jonez.—p. 121.
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Proc. Soc. Exper. Biol. & Med., Utica, N. Y.

83:423-654 (July) 1953. **Partial Index**

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Effect of Hyaluronidase on Experimental Hypercholesterolemia in Rabbits and Rats and Atheromatosis in Rabbits. J. Seifter, D. H. Baeder, W. J. Beckfield and others.—p. 468.
Leptospiral Macroscopic Agglutinating Antigens. W. G. Hoag, W. S. Gochenour Jr. and R. H. Yager.—p. 490.
Effect of Cortisone on Diphtheria Intoxication and Schick Test in Guinea Pigs. P. Rosenbaum and W. Obrinsky.—p. 502.
Effect of Thyroid Hormone on Growth of Thyrotrophin-Secreting Pituitary Tumors. E. L. Gadsden and J. Furth.—p. 511.
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Excretion of 3-(3-Amino-2,4,6-Triiodophenyl)-2-Ethyl-Propanoic Acid (Telepaque) by Man. J. S. Schroder and D. Rooney.—p. 544.
Erythropoietic Stimulation Induced by "Anemic" Serum. A. Erslev, P. H. Lavietes and G. van Wagenen.—p. 548.
*Safety of Immune Serum Globulin with Respect to Homologous Serum Hepatitis. R. Murray and F. Ratner.—p. 554.
Method for Establishing Human Cells in Culture: Susceptibility to Poliomyelitis After Prolonged Cultivation. H. E. Swim and R. F. Parker.—p. 577.
Effect of Additions to ACD Blood on Erythrocyte Preservation. O. Schales—p. 593.
Production of Fever by Influenzal Viruses: IV. Tolerance to Mumps and Influenza Pyrogens. R. R. Wagner.—p. 612.

Safety of Serum Globulin with Respect to Hepatitis.—Immune serum globulin is prepared commercially by two processes: (*a*) salting-out, e. g., by means of ammonium sulfate, and (*b*) by the cold-ethanol process or a variation thereof. Blood obtained either by venipuncture or by extraction from placentas is used as the source material. The requirements of the National Institutes of Health for immune serum globulin stipulated that pools consist of at least 500 individual contributions. In view of the fact that approximately one person out of 300 receiving blood transfusion may develop hepatitis, it might be expected that many of the pools of plasma used in the manufacture of immune serum globulin would be infected with the agent, or agents, of homologous serum hepatitis. Although experience indicates that the incidence of homologous serum hepatitis following administration of immune serum globulin must be low, it was deemed advisable to determine the infectivity of immune serum globulin with reference to homologous serum hepatitis by inoculation studies in human volunteers. Material from a pool of infected plasma, approximately 130 liters, was used in the studies on the safety of plasma and its derivatives. Approximately 16 liters of this plasma were fractionated by the cold-ethanol process. The immune serum globulin so prepared was subjected to the required tests for sterility, safety, and pyrogenicity. This material was then inoculated subcutaneously into 10 volunteer subjects, each of whom received 2 ml. Simultaneously five volunteers in a control group each received 1 ml. of the original plasma from which the globulin had been produced. None of the subjects who received globulin developed hepatitis, with or without jaundice, while one of the five in the control group developed hepatitis with jaundice, and a second person in this control group developed positive hepatic tests suggestive of hepatitis without jaundice. Hepatitis with jaundice also developed in two of five subjects who were inoculated with 1 ml. amounts of a 1/1,000 N saline dilution of plasma from the same vial as that administered to the aforementioned control group. Thus it was demonstrated that immune serum globulin produced by the cold-ethanol method from proved infectious plasma failed to produce hepatitis in 10 volunteer subjects.

Psychiatric Quarterly, Utica, N. Y.

27:367-542 (July) 1953. **Partial Index**

Role of Psychiatrist in General Hospital. M. R. Kaufman.—p. 367.
Considerations in Differential Diagnosis of Schizophrenia. N. Bigelow. —p. 382.
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Simulation of Psychosis: Report of Three Cases. M. Wachspress, A. N. Berenberg and A. Jacobson.—p. 463.

Review of Gastroenterology, New York

20:537-600 (Aug.) 1953

Current Status of Medical Management of Peptic Ulcer. C. A. Flood and G. E. Hennig.—p. 543.
Gastric Cancer Problem. W. A. Cooper.—p. 553.
Gastric Carcinoma. H. D. Harvey.—p. 558.
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Psychotherapy in Disorders of Gastrointestinal Tract. F. Wertham. —p. 573.
Diagnosis of Pancreatic Disease. A. Richman.—p. 579.

Rhode Island Medical Journal, Providence

36:345-412 (July) 1953

What the Practitioner Should Know About Poliomyelitis. L. Weinstein. —p. 361.
Where Do We Go from Here? H. Baldwin.—p. 368.
102nd Annual Meeting of the American Medical Association at New York City, N. Y., June 1-5, 1953. C. L. Farrell.—p. 378.

Rocky Mountain Medical Journal, Denver

50:613-702 (Aug.) 1953

Changing Attitudes Toward Operative Obstetrics. W. C. Keettel.—p. 635.
Acute Intestinal Obstruction. K. C. Sawyer.—p. 639.
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The Physician and Military Medicine. G. E. Armstrong.—p. 649.
Role of Roentgen Therapy in Carcinoma of Breast. D. G. Edmunds. —p. 666.
Differential Diagnosis and Management of Acute Pharyngitis. J. F. Waldo.—p. 670.

Tennessee State Medical Assn. Journal, Nashville

46:275-312 (Aug.) 1953

Vagotomy and Antral Resection in Treatment of Duodenal Ulcer. J. L. Herrington Jr. and L. W. Edwards.—p. 275.
Treatment of Discoid Lupus Erythematosus. R. N. Buchanan Jr.—p. 279.
*Atabrine Therapy in Discoid Lupus Erythematosus. F. Miller.—p. 283.
Some Simple Surgical Procedures on Eyelids. P. M. Lewis.—p. 287.

Quinacrine (Atabrine) in Discoid Lupus Erythematosus.—Miller says that the spectacular success obtained with quinacrine (Atabrine) by Page in 1951, reported in *The Lancet* (2:755 [Oct. 27] 1951); abstracted in The Journal ([Feb. 2] 1952, p. 409) met with some skepticism, owing to the fact that several new agents have been tried in recent years in the treatment of lupus erythematosus but none has seemed to stand the test of time. A pharmacist, who had had chronic discoid lupus erythematosus with extensive involvement of the skin for three years first learned of this report in February, 1952. This man had received much therapy including gold and cortisone, but there had been little amelioration of symptoms or of skin eruption. Self-medication with quinacrine was begun, and after only a few weeks the patient became enthusiastic about his improvement. By May, 1952, there was a definite and marked objective improvement. Treatment with quinacrine in 9 of 10 patients, whose histories are presented here, showed great improvement; only one patient failed to improve. In three patients the lesions cleared completely, and in the others there was a gradual but steady involution of plaques. The sedimentation rate, however, has not been favorably influenced although patients appear to be greatly improved subjectively. In an addendum, the author states that since the submission of this report an additional 18 patients with lupus erythematosus have been treated with quinacrine. Results in the treatment of discoid lupus erythematosus have continued to be excellent, although only 4 of the 28 patients treated with quinacrine have been able to discontinue use of the drug. A number of patients have now taken quinacrine for more than 10 or 12 months. Although the effects of quinacrine are far from ideal, it seems to be superior to other treatments.

U. S. Armed Forces Med. J., Washington, D. C.

4:951-1106 (July) 1953. **Partial Index**

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Cyanosis: Review of Current Concepts. L. R. Robbins.—p. 1017.
Pain Equivalents Treated with Electroshock. L. B. Hohman and W. E. Wilkinson.—p. 1025.
Local Chemotherapy of Surgical Wounds. P. W. Fenney and J. M. Miller.—p. 1031.
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Method for Screening Nonpathogens in Feces. A. C. Sanders and K. Okabe.—p. 1053.
Treatment of Cryptococcosis with Terramycin. B. D. Hall and R. E. Mardis.—p. 1061.
*Amebic Granuloma of Rectum Simulating Carcinoma. K. F. Ernst.—p. 1069.
Metaphysial Aclasis. T. B. Dameron Jr. and W. H. Gulledge.—p. 1077.
Large Caliber Missile Wound of the Heart. A. R. Nelson and J. J. Zuska.—p. 1083.
Cardiac Arrest with Recovery. B. H. Inloes Jr. and A. A. S. D'Amore.—p. 1089.

Amebic Granuloma of Rectum Simulating Carcinoma.—Infection of the intestinal tract by Endamoeba histolytica may result in the development of a chronic hyperplastic process, with or without abscess formation, that is known as amebic granuloma or ameboma. These lesions may cause intestinal obstruction and may be confused with carcinoma. The author cites the history of a man, aged 30, who was admitted to Letterman Army Hospital on July 1 with abdominal pain as his chief complaint. Abdominal pain and distention had been present since the middle of May. The patient was admitted to another hospital on June 21, and a diagnosis of tumor of the rectum was made there. A Frei test was negative. A stool examination for parasites and ova was ordered, but apparently was not done. On transfer to Letterman Army Hospital he had lost 42 pounds and had vague abdominal tenderness, but no mass was palpable through the abdominal wall. Rectal examination disclosed a firm mass posteriorly, on the right side, about the size of a lemon. It seemed to involve the wall of the rectum. His temperature varied up to a maximum of 100 F; his leukocyte count ranged up to 20,900, with 83% neutrophils; and his hemoglobin level dropped to 7 gm. after the onset of an intestinal hemorrhage that characterized the terminal stages of his illness. A barium enema revealed a constant filling defect encircling the upper half of the rectum. During proctoscopy an obstruction that could be bypassed on the left side was encountered 5 cm. above the anal orifice and a mass about 6 cm. in diameter, which was apparently in the rectal wall. On July 23 an exploratory laporatomy was performed. The organs in the pelvis were an adherent mass. This mass extended from the posterior surface of the urinary bladder to the sacral promontory, and the lower sigmoid went directly into it. A sigmoid colostomy was performed and division of the colostomy loop was completed on Aug. 4. The patient died one month later. At autopsy, scrapings from the margin of an ulcer in the rectosigmoidal mucosa revealed trophozoites of E. histolytica, and microscopic examination of the bowel showed colonization by the same organisms. In retrospect, the elevated leukocyte count, with a high per cent of neutrophils, and the febrile reaction perhaps should have suggested an inflammatory process. It is possible that the ulcer of the rectum noted at autopsy was present at the time of proctoscopy, but that it was not seen because of its location above and behind the elevated and indurated mass infringing on the lumen of the bowel. Amebic granuloma should be considered in the differential diagnosis of obstructive or deforming lesions of the large bowel.

West Virginia Medical Journal, Charleston

49:245-278 (Sept.) 1953

*Hypotensive Anesthesia. A. Brunschwig and C. P. Boyan.—p. 245.
Acoustic Nerve Tumors. R. M. Ferrell.—p. 247.
Problems of Health and Emotional Adjustment in Ageing. M. W. Thewlis.—p. 249.
Survey of Ragweed Pollination in Charleston-Kanawha County, West Virginia, Area, 1952. M. S. Scherr.—p. 253.
*Observations and Manifestations of Chronic Barbiturate Intoxication. A. A. Milburn.—p. 254.
Treatment of Arachnidism with Cortisone. C. E. Watson and J. E. Stone.—p. 258.

Hypotensive Anesthesia.—Brunschwig and Boyan attempted to reduce blood loss in radical excisional procedures by controlling hypotension. They induced hypotension during general anesthesia in a series of 68 cases by intravenous injection of hexamethonium bromide. The operations performed included radical hysterectomy and pelvic lymph node excision, total or partial pelvic exenteration, abdominoperineal resection of colon and hysterectomy, pancreatoduodenectomy, partial hepatectomy, total vulvectomy and radical inguinal node excision, thoracoabdominal gastroesophagectomy, bilateral adrenalectomy, excision of various types of pelvic and abdominal tumors, exploratory laparotomy, and radical mastectomy and neck dissection. The results were excellent in 36 cases and good in 17. The effect was undetermined in 5 cases, and in the remaining 10 there was either no apparent hemostatic effect or hypotension failed to develop. It seemed that younger persons do not respond as well as middle-aged persons. Hypotensive anesthesia does not seem necessary in routine procedures, and should be reserved for ultraradical surgery in which extensive dissections and large raw surfaces occur. Patients subjected to hypotensive anesthesia are in a very susceptible status in so far as the circulatory system is concerned, and therefore this type of anesthesia must be conducted by a physician specialist in anesthesiology.

Chronic Barbiturate Intoxication.—Eleven patients who could be called true barbiturate addicts were observed during 1951 at the Medical Center with which Milburn is connected. Six were addicted to barbiturates only and five were addicted to both barbiturates and alcohol, the barbiturate component predominating. The period of habitual use of the drug ranged from 3½ to about 17 years. The amount ingested per 24 hour period ranged from 4.5 to 17.5 grains (0.3 to 0.5 gm.). In only two cases was there an accurate history of therapeutic administration previous to addiction. Constitutional psychopathic inferiority or character disorders, such as anxiety, dependency, inadequacy, compulsive features, depressive tendencies, and character disorders with schizoid trends, were present in all. The clinical picture was that of moderately acute intoxication, that is, cortical depression and cerebellar dysfunction. Capacity for abstract thought and ability to think concretely were impaired. Defective judgment, somnolence, and confusion were present in all. There was neglect of the social amenities, and some patients were dirty and unkempt. Withdrawal of the barbiturate was attempted in all, but four left the hospital before emotional stability had been established. An abstinence syndrome always developed after sudden reduction or complete and abrupt withdrawal of the drugs. Petit mal or grand mal seizures occurred in some of the patients. One patient died after a succession of seizures. Six patients became acutely psychotic between the fourth and eighth day of abstinence. In many respects their symptoms resembled those of acute alcoholic hallucination. Treatment of barbiturate addiction should be carried out in a hospital where adequate control of the patient can be maintained. Withdrawal of the barbiturates is best effected by gradual reduction. If, during withdrawal, the patient becomes highly nervous, has tremors, anxiety, and severe insomnia, reduction of dosage should be stopped. If convulsions and hallucinations occur, the dosage should be raised and one or two doses administered intravenously. The hallucinations usually disappear by the fourth or fifth day following complete abstinence after gradual withdrawal. In the last phase of treatment, rehabilitative and psychotherapeutic measures should be instituted.

FOREIGN

Australian J. Exper. Biol and M. Science, Adelaide

31:105-192 (April) 1953. **Partial Index**

Quantitative Complement Fixation Test, with Special Reference to Low Titred Sera. D. Mountford.—p. 105.
*Comparison of Morphology of Vaccinia and Myxoma Viruses. J. L. Farrant and F. Fenner.—p. 121.
Non-Keratins of Human Toenails. A. Bolliger and R. Gross.—p. 127.
Studies on Pathogenesis of Hitherto Undescribed Virus (Hepato-Encephalomyelitis) Producing Unusual Symptoms in Suckling Mice. N. F. Stanley, D. C. Dorman and J. Ponsford.—p. 147.
Polarographic Study of Antigen-Antibody Complex. B. Breyer and F. J. Radcliff.—p. 167.
Sensitive Photo-Electric Colorimeter. H. F. Holden.—p. 173.
Interaction of Thrombin with Plasma Components of Man and Experimental Animals. P. Fantl and L. Ebbels.—p. 175.

Morphology of Vaccinia and Myxoma Viruses.—According to Farrant and Fenner, there is general agreement among virologists that, from the viewpoint of taxonomy, morphology is the most important single property of the animal pathogenic viruses. Study of stained smears of the elementary bodies of the virus of infectious myxomatosis with the light microscope established that in appearance they resembled the elementary bodies of vaccinia. This similarity was confirmed by electron microscopic examination of these viruses, which revealed that the elementary bodies of both were almost identical in size and exhibited the brick-shaped appearance characteristic of the pox viruses. Despite this evidence, myxoma is not generally classified as a pox virus but has usually been grouped with Rous sarcoma and Shope papilloma viruses as a tumor-producing agent. Detailed studies, by one of the authors, of myxomatosis in European rabbits revealed that there was a closer similarity between the pathogenesis of myxomatosis and the pox diseases than had previously been recognized. A more detailed electron microscopic examination of myxoma virus revealed that the elementary bodies of myxoma and vaccinia viruses are identical. Both have the brick shape characteristic of the pox viruses. The dimensions of the osmium-fixed particles of the two viruses are given. Myxoma particles contain dense pepsin-resistant central bodies similar to those demonstrated in vaccinia and fowlpox viruses by other workers. These facts, together with the recent demonstration of a close similarity between the pathogenesis of myxomataosis and the pox diseases, indicate that myxoma belongs to the pox group.

British Heart Journal, London

15:273-368 (July) 1953

*Familial Incidence of Congenital Malformation of Heart. T. McKeown, B. MacMahon and C. G. Parsons.—p. 273.
Ballistocardiograms After Cigarette Smoking in Health and in Coronary Heart Disease. C. B. Henderson.—p. 278
Congenital Tricuspid Atresia. R. Astley, J. S. Oldham and C. Parsons.—p. 287.
Left Atrial and Pulmonary Capillary Venous Pressures in Mitral Stenosis. R. G. Epps and R. H. Adler.—p. 298.
Persitent Left Superior Vena Cava Draining Pulmonary Veins. F. Gardner and S. Oram.—p. 305.
Angiocardiogram in Fallot's Tetralogy. J. B. Lowe.—p. 319.
Fatality Following Cardiac Catheterization Injury. J. F. Goodwin.—p. 330.
Necropsies in Some Congenital Diseases of Heart, Mainly Fallot's Tetralogy. W. D. Brinton and M. Campbell.—p. 335.
Cation Exchange Resin (Resodec) in Treatment of Cardiac Edema. A .A. F. Peel and T. Semple.—p. 350.

Familial Incidence of Congenital Malformation of Heart.—The familial incidence of congenital heart disease was recorded for 425 families which contained 431 probands born to Birmingham mothers between 1940 and 1949. The diagnosis of congenital malformation of the heart was established in the proband by postmortem examination, at operation, or clinically by a consultant physician. There were six affected by congenital heart disease (18 per 1,000) among 342 siblings born after the proband. This is approximately six times the incidence (3.2 per 1,000) in the general population of births. The incidence of malformations other than congenital heart disease was not raised in siblings of probands. The nature of the cardiac defects was fairly reliably diagnosed in five families with two affected members; in three of the five families the lesions were identical in both persons affected. This evidence suggests that the risk of recurrence of the same cardiac malformation may be greater than the risk of a different one. Five confirmed and 13 unconfirmed cases of congenital malformation of the heart were identified among 4,143 first cousins of probands. Of 834 parents, 14 were said to have congenital heart lesions. Further clinical examination indicated that eight of them were normal, four had rheumatic heart disease, and only two had congenital heart lesions. There were two marriages of first cousins among 424 marriages of parents of probands; in both cases, the proband had dextrocardia and transposition of the viscera. There were seven patients with dextrocardia among the probands, and the high incidence of consanguinity of parents in these cases provides support for Cockayne's suggestion that this condition may be inherited as a recessive.

British Journal of Experimental Pathology, London

34:233-340 (June) 1953. **Partial Index**

Interference with Antitoxic Responses in Immunisation with Combined Prophylactics. M. Barr and M. Llewellyn-Jones.—p. 233.
Preparation of Non-Flocculating Diphtheria Antitoxin by Absorption of Non-Antitoxic Antibodies. C. G. Pope and M. F. Stevens.—p. 241.
Interaction of Antigens and Antibodies in Presence of Low Concentrations of Salt. J. R. Marrack and R. A. Grant.—p. 263.
Studies on Antigenic Structure of Herpes Simplex Virus. J. A. H. Brown.—p. 290.
*Observations on Poliomyelitis Complement-Fixation Test. G. L. Le Bouvier.—p. 300.

The Poliomyelitis Complement Fixation Test.—The studies described are preliminary to work with human serums. The author stresses that the technique of Fulton and Dumbell, in which drops of reagents on perspex sheets are used, was successfully applied to poliomyelitis antigen-antibody systems. The different ways of performing the test are described. The antigen was an aqueous suspension of the brains of very young mice infected with the "adapted" MEF_1 strain of type 2 poliomyelitis virus; unlike that of Casals and Olitsky, it was not acetone-ether extracted. In two-dimensional complement fixation tests, with varying concentrations of complement and serum, as in conventional one-dimensional tests with a single complement dose, specific fixation was obtained with the unextracted antigen and hyperimmune Lansing and MEF_1 (type 2) antiserums. No specific fixation was detected with hyperimmune monkey serums against type 1 and type 3 poliomyelitis viruses. A few human serums were examined. In general those from children and adults with no history of recent poliomyelitis showed no fixation with the unextracted poliomyelitis antigen although some Wassermann positive serums gave variable nonspecific reactions. Paired serums from patients showed mostly slight, but in some cases definite, fixation with the type 2 antigen in one or other specimen. Heating at 56 C for 30 minutes destroyed the infectiousness of the antigen for mice, as did ultraviolet irradiation for 5 minutes. Heating reduced the titer slightly, whereas this amount of irradiation did not.

British Journal of Industrial Medicine, London

10:141-216 (July) 1953

The Pre-Impinger: A Selective Aerosol Sampler. K. R. May and H. A. Druett.—p. 142.
Studies on Nature of Silicosis: Effect of Silicic Acid on Connective Tissue. P. F. Holt and S. G. Osborne.—p. 152.
Incidence of Peptic Ulcer and Chronic Gastritis Among Swedish Sea Pilots. T. Dalhamn.—p. 157.
Acute Poisoning Caused by Ingestion of Ethylene Chlorohydrin. F. Ballotta, P. Bertagni and F. M. Troisi.—p. 161.
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Legislation and Litigation: Comments on Development of Industrial Law. W. M. Cooper.—p. 173.
From Factory Inspection to Adult Health Service: Review of Governmental Administration of Occupational Health. M. I. Roemer.—p. 179.
Occupational Health Problems of English Painters and Varnishers in 1825. G. Rosen.—p. 195.
Preliminary Notes on Treatment of 50 Cases of Tenosynovitis in Industry. E. L. Knowles and M. D. Kipling.—p. 200.
Occupational Hygiene Team. P. H. Nash and R. J. Sherwood.—p. 202.

British Journal of Plastic Surgery, Edinburgh

6:73-148 (July) 1953. **Partial Index**

Classification of Haemangiomata. F. L. F. Innes.—p. 76.
*Conservative Treatment of Haemangiomatous Naevi. H. J. Wallace.—p. 78.
Treatment of Haemangiomata. D. N. Matthews.—p. 83.
Reconstruction of Pharynx After Pharyngo-Oesophago-Laryngectomy. V. E. Negus.—p. 99.
Repair Following Pharyngo-Oesophago-Laryngectomy. F. T. Moore and T. Faulkner.—p. 102.
Skin Transfer to Amputation Stumps. J. R. Ascott.—p. 115.
Plantar Keratoderma Treated by Split-Skin Grafts. D. Wynn-Williams.—p. 123.
*Tylosis. D. Dencer.—p. 130.
Palpebral Ptosis: Correction by Transplant of Fascia Lata. R. Farina and P. de Poledo Piza.—p. 141.

Conservative Treatment of Hemangiomatous Nevi.—Wallace observed 300 patients with various forms of hemangiomas appearing soon after birth. In 95% of these, follow-up could be continued for an average of seven years. He excludes from observation arterial hemangiomas, diffuse hemangiomatosis, gigantism, and multiple familial telangiectasia. He classifies the lesions into two groups; flat and raised. The flat group includes the spider nevus (stellate hemangioma), which is rarely present at birth. It may appear for the first time in adult life and it may undergo spontaneous regression in childhood. This group also includes the salmon patch (erythema nuchae), which is pale pink, occurs especially on the nape of the neck and forehead, and fades in a few months, and the port-wine stain (naevus flammeus), which is of deeper color and consists of a thin layer of capillary tissue in the dermis. The port-wine stain is permanent. A rare variant of this is a thicker plum-colored nevus often associated with intracranial lesions, the Sturge-Weber syndrome. Application of thorium X is the only effective treatment in port-wine stains. In about two-thirds of the patients treated with thorium X the intensity of the staining was greatly reduced; in the remaining one-third improvement was minor. These results although unsatisfactory are superior to those obtainable with freezing, x-ray, or even plastic surgery. The latter treatment, however, is the only one that gives hope of improvement in the plum-colored lesions of the Sturge-Weber syndrome. Treatment is most controversial in the raised types of hemangioma. The author observed 208 patients with strawberry nevi, often multiple, and 98 patients with 121 cavernous nevi of which 78 had some superficial capillary element. In both types the nevus may appear at or a month or two after birth and may grow out of proportion to the child. After a few months, this disproportionate growth ceases and is followed by gradual involution over the next few years. Most of the involution occurs within the first two or three years of life but may continue up to the age of 7 years. In strawberry hemangioma, the appearance of grey flecks is the earliest sign of spontaneous involution. Ulceration occurred in a few patients but did not cause serious trouble and was not comparable to the ulceration following many forms of treatment. The danger of strawberry or cavernous hemangiomata enlarging to such a degree that they injure vital structures has been greatly exaggerated. There is seldom, if ever, any justification for the mutilating surgery that is occasionally performed. Most of the recorded reports of malignant change in these hemangiomas bear the imprint of panic combined with inadequate knowledge of their natural history. There is, however, a very rare type of strawberry hemangioma that does not alter in size out of proportion to the patient either during infancy or childhood but in which maliginant change has been recorded at or after puberty, but never before. The general impression of these lesions is that they are redder than the usual and at no time show any signs of involution. It is, therefore, fairly easy to recognize such very rare lesions by the age of 6 or 7 years, and excision seems to be indicated.

Tylosis.—According to Dencer, tylosis is a rare congenital hyperkeratosis affecting the hands and feet. The part most involved in the feet is the weight-bearing area. The thickening tends to spread up and to encase the heel. Cracks are generally present, and these often become infected. This condition may produce little or no disturbance, or the thickening of the skin of the hands may seriously interfere with finer movements of the fingers and reduce tactile sensibility. The soles tend to be more painful than the palms, and frequent attention may be necessary to enable the patient to remain ambulant. The disorder may spread to the dorsum of the fingers or toes, and frequently the nails are attacked. They become thick, opaque, raised up from the nail bed by a horny accumulation beneath them. In some cases the associated onychodystrophy gives rise to symptoms severer than the skin lesion. The condition should be distinguished from the acquired hyperkeratoses due to the excretion of arsenic, from Mal de Meleda seen on the Dalmatian coast, from hereditary disseminate keratoma, and from disseminate keratoderma of the palms and soles. Before presenting the histories of five patients with tylosis that he observed, the author cites other reports on this condition and gives particular attention to the possible role of vitamin A deficiency in the causation. The five cases presented occurred in two families in which the condition appeared in each of several generations. The treatment so far has been largely palliative. Local measures, such as rubbing with fine sandpaper or softening the skin with salicylic acid and other keratolytics, may keep the condition under control. Vitamin A therapy has been tried with doses of 100,000 units daily for long periods. Superficial x-ray therapy has been tried but is not a completely satisfactory measure and is not without risk. Temporary spontaneous cures have been known to occur, and temporary cure has also occasionally resulted from prolonged bed rest. The author presents the history of one woman in whom the condition was so severe that she was unable to bear any weight on her feet, and she had to do all her housework on her hands and knees. Complete excision and grafting was tried and proved very satisfactory.

British Medical Journal, London

2:163-236 (July 25) 1953

The Place of the Hospital in National Health Service. A. Daley.—p. 163.
Staphylococcal Infection of the Newborn. J. O. Forfar, C. L. Balf, T. F. Elias-Jones and P. N. Edmunds.—p. 170.
Study of Two Unusual Blood-Group Antigens in West Africans. J. N. N. Chalmers, E. W. Ikin and A. E. Mourant.—p. 175.
Use and Effectiveness of Antimalarial Drugs: Experience of Non-Native Resident Population of Nigeria, West Africa. B. M. Nicol.—p. 177.
Female Fertility. D. Llewellyn-Jones.—p. 180.
"Coliform Diarrhoea" in Adult Hospital Patients. W. McNaught and J. S. Stevenson.—p. 182.
Infected Urachal Cysts. H. I. Rees.—p. 184.
Lingual Thyroid. K. Sicher.—p. 186.

Deutsche medizinische Wochenschrift, Stuttgart

78:957-1004 (July 3) 1953. **Partial Index**

Spread of Poliomyelitis in Germany Since End of Second World War. A. Windorfer.—p. 957.
*Experiences of Practical Importance in 1952 Epidemic of Poliomyelitis in Essen. O. Hartmann.—p. 962.
Polycythemia and Cirrhosis of Liver. R. Schneider and M. Wolf.—p. 965.
Sporadic Occurrence of Lethargic Encephalitis (Economo's Disease). G. Wolf.—p 968.
*Thoughts on Hormone Therapy in Carcinoma of Prostate. G. Bornmann and A. Loeser.—p. 970.

1952 Epidemic of Poliomyelitis in Essen.—In 1952, 318 cases of poliomyelitis were observed in 255 children and in 63 adolescents and adults. The total mortality rate was 8.88%. In the different districts of the city, the mortality rate varied from none to 22.6%. Of the 318 patients, 8 were brothers and sisters ("fraternal cases") and 5 were children who had played together ("paired cases"). Close contact may play a part in the causation of the infection. Trauma in the widest sense of the word and overexertion are of definite importance during the incubation period, as was proved by the histories of 16 patients. Of 242 hospitalized children, 111 had a nonparalytic type of the disease. Of 126 paretic patients, 51 had an "ascending" type of paresis. Five children had primary polioencephalitis. The simultaneous presence of a high cell count and protein values in the cerebrospinal fluid suggests an unfavorable prognosis. In patients with these findings, a very rapid ascent of paresis was frequently observed. The bulbar types with much less pronounced findings in the cerebrospinal fluid have an unfavorable prognosis, if they are associated with vasomotor weakness. Physical and mental strain should be avoided during the critical stage of the disease. Two cases of late paralysis were apparently caused by actions contrary to this rule. In one of these patients the exacerbation resulted from too early physical strain. Of 16 patients placed in a mechanical respirator, 11 died and 5 improved. The mechanical respirator is particularly indicated in patients with spinal respiratory paralysis, but not in patients with bulbar respiratory paralysis. Children who could not count further than six in one breath and who had dyspnea when resting and pulmonary roentgenologic manifestations were placed in the mechanical respirator. Temporary application of a mechanical respirator is recommended for patients in deep coma with superficial breathing. The "electrolung" proved beneficial as a preparatory treatment before taking the patient out of the mechanical respirator. It was also useful in the after treatment of paresis of the diaphragm and abdominal muscles.

Hormone Therapy of Carcinoma of Prostate.—Observations on women with cancer given large doses of male sex hormone and animal experiments in which the Fallopian tubes or the spermatic ducts were severed with resulting hypofunction of the thyroid, suggested the use of desiccated thyroid or thyroxin in patients with carcinoma of the prostate in addition to female sex hormones or synthetic substitutes. This idea is based on the concept that the effect of the sex hormone on the tumor tissue may thus be increased, while at the same time the untoward reactions, such as circulatory disturbances, lowered metabolism, reduced defense mechanism, and depressed state of mind due to thyroid deficiency, would be attenuated to a considerable degree.

Journal of Physiology, Cambridge

121:1-224 (July) 1953. **Partial Index**

Measurement of Volume Changes in Human Limbs. R. J. Whitney.—p. 1.
Diabetogenic Action of Purified Growth Hormone in Adrenalectomized Animals. M. F. Lockett, E. Reid and F. G. Young.—p. 28.
Renal Function and Excretion of Potassium in Acute Alkalosis. G. T. Franglen, E. McGarry and A. G. Spencer.—p. 35.
Response to Vasodilator Substances of Blood Vessels in Fingers Immersed in Cold Water. F. Duff, A. D. M. Greenfield, J. T. Shepherd and others.—p. 46.
Occurrence of Homologues of Acetylcholine in Ox Spleen. J. Banister, V. P. Whittaker and S. Wijesundera.—p. 55.
Density Flowmeter, Direct Method for Measurement of Rate of Blood Flow. G. S. Dawes, J. C. Mott and J. R. Vane.—p. 72.
New Perfusion Method. J. R. Vane.—p. 97.
Response of Pulmonary and Cardiovascular Vagal Receptors to Certain Drugs. A. S. Paintal.—p. 182.
Vasopressor and Oxytocic Activities of Pituitary Glands of Rats, Guinea-Pigs and Cats and of Human Foetuses. S. E. Dicker and C. Tyler.—p. 206.
Spread of Failure of Conduction in Degenerating Mammalian Nerve. G. Causey and C. J. Stratmann.—p. 215.

Lancet, London

2:209-260 (Aug. 1) 1953

*Idiopathic Thrombocytopenic Purpura: A Challenge. M. Stefanini and W. Dameshek.—p. 209.
Laboratory Techniques for Determination of Sensitivity of Tubercle Bacilli to Isoniazid, Streptomycin, and P.A.S.: (M.R.C. Isoniazid Trial: Report No. 3). Report by Laboratory Subcommittee of Tuberculosis Chemotherapy Trials Committee, Medical Research Council.—p. 213.
*Emergence of Bacterial Resistance in Pulmonary Tuberculosis Under Treatment with Isoniazid, Streptomycin Plus P.A.S., and Streptomycin Plus Isoniazid: (M.R.C. Isoniazid Trial: Report No. 4). Report by Laboratory Subcommittee of Tuberculous Chemotherapy Trials Committee, Medical Research Council.—p. 217.
Nature and Treatment of Coeliac-Plexus Reflex in Man. B. H. Smith.—p. 223.
Effect of Alkalis on Fasting Human Stomach. J. S. Staffurth.—p. 227.
Vasodilatation Produced by Experimental Arterial Gas Embolism in Man. E. Duff, A. D. M. Greenfield and R. F. Whelan.—p. 230.

Idiopathic Thrombocytopenic Purpura.—The authors' studies of idiopathic thrombocytopenic purpura suggest an immunologic concept of the condition, although other humeral mechanisms, perhaps emanating from the spleen, cannot be ruled out. How or why platelet antibodies (agglutinins), destructive to the patient's own platelets, are evolved is at present unsolved. It is known that platelets and their products are antigenic. This is demonstrated not only by the development of platelet agglutinins by laboratory animals receiving heterologous platelets but also by the presence of antiplatelet agents in the plasma of thrombocytopenic patients receiving multiple platelet transfusions. It is conceivable that bacterial and viral agents and other noxious factors may modify the structure of the platelet and confer on it autoantigenic properties. It is also possible that the autoagglutinin might be the end-result of faulty synthesis of protein by diseased organs. Autoimmune thrombocytopenia may be just as real as autoimmune hemolytic anemia. With this in mind one can present a tentative classification of idiopathic thrombocytopenic purpura that is compatible with the better documented one for hemolytic anemia, by distinguishing between an intrinsic abnormality due to hereditary or acquired factors and an extrinsic disturbance of bacterial or viral, autoimmune, or hypersplenic origin. An immediate result of the authors' studies has been emphasis of the necessity for the careful assessment of the clinical and laboratory features of each case of idiopathic thrombocytopenic purpura with particular reference to its acute or chronic nature. This has considerable bearing on the decision whether and, if so, when splenectomy should be done. Splenectomy is at present the only available treatment for chronic idiopathic thrombocytopenic purpura and is successful in about 60% of the cases. The hazard of the splenectomy is negligible with the aid of corticotropin therapy and platelet transfusions. Less practical, but theoretically important, has been the development of the concept that each case of idiopathic thrombocytopenic purpura, whether acute or chronic, may well be an individual syndrome in which many different pathogenic mechanisms play an undetermined part.

Bacterial Resistance in Pulmonary Tuberculosis Treated with Isoniazid.—Since February, 1952, a clinical trial of isoniazid by the British Medical Research Council has been in progress with more than 1,300 patients receiving treatment in 53 hospitals. As part of this therapeutic trial the development of bacterial resistance over a period of six months to isoniazid and to streptomycin was studied in three groups of patients; 264 patients were given isoniazid alone, 233 received streptomycin combined with *p*-aminosalicylic acid, and 130 streptomycin combined with isoniazid. The standard doses of the three drugs were: 100 mg. of isoniazid twice a day, 1 gm. of streptomycin daily, and 5 gm. of the sodium salt of *p*-aminosalicylic acid four times daily. After three months of treatment, only a proportion of patients continued with the original chemotherapy; for those who continued, the dose of streptomycin was reduced to 1 gm. 2 or 3 times a week. Treatment was determined by random allocation, and the clinical condition on admission of the three groups of patients was comparable. Bacillary resistance to isoniazid was observed in 64% of 132 positive cultures, representing 35% of the total number of patients on whom cultures were made. At six months 30 positive cultures were obtained from 48 patients, and 28 of the 30 cultures (93%) were resistant. The development of isoniazid resistance in patients treated with streptomycin combined with isoniazid was in clear contrast to that in patients treated with isoniazid alone, since by three months of treatment 11% of 28 positive cultures were resistant, and resistant strains had been isolated from 2% of all patients treated with streptomycin combined with isoniazid as compared with 64% and 35%, respectively, for patients treated with isoniazid alone. At six months of treatment two of only four positive cultures (50%) were resistant, and these two resistant strains were obtained from a total of 58 patients for whom cultures were made (3%). For three months after treatment with isoniazid was discontinued there was no evidence of any general reversion of isoniazid-resistant strains either to a lower level of resistance or to sensitivity. For six months, streptomycin combined with isoniazid was as effective as streptomycin combined with *p*-aminosalicylic acid in preventing the emergence of strains resistant to streptomycin. On streptomycin combined with isoniazid 8% of positive cultures were streptomycin-resistant at three months and none of four at six months; on streptomycin combined with *p*-aminosalicylic acid the corresponding figures were 6% and 29% (two of seven). Patients with organisms initially resistant to *p*-aminosalicylic acid were not protected from the risk of development of streptomycin resistance by treatment with streptomycin combined with *p*-aminosalicylic acid.

Medical Journal of Australia, Sydney

1:869-904 (June 20) 1953. Partial Index

Early Diagnosis of Cervical Carcinoma with Special Reference to General Practice. R. F. Matters.—p. 874.
Anterior Dislocation of Shoulder: Reduction by "Hanging-Arm" Technique. G. Kerridge.—p. 882.
Development of Isonicotinic Acid-Hydrazide Resistance in Mycobacterium Tuberculosis: Preliminary Publication. J. S. Incze.—p. 883.
Complicated Aneurysmal Varix of Femoral Artery Treated by Arterial Suture. J. T. Hueston.—p. 886.
Canicola Fever in Australia. C. N. Sinnamon, V. M. Pask, D. J. W. Smith and others.—p. 887.

Münchener medizinische Wochenschrift, Munich

95:741-764 (July 3) 1953. Partial Index

Nil nocere!: Errors in Obstetrics. A. Mayer.—p. 741.
Coxsackie Virus Infections in Childhood. U. K. Petersen.—p. 743.
Clinical Forms of Parkinsonism in Their Relationships to Pathological Anatomy. G. Heilig.—p. 747.
Artificial Respiration in Iron Lung; Report on Experience with 105 Patients with Poliomyelitis Associated with Respiratory Paralysis Between 1947 and 1952. R. Aschenbrenner, A. Dönhardt and K. Foth.—p. 748.
*Sleep Therapy in Poliomyelitis; Attempted Prophylaxis of Paralysis with Sedatives. T. Brehme and W. Leuterer.—p. 751.

Sleep Therapy in Poliomyelitis.—Brehme and Leuterer emphasize the great importance of rest at the time of the first signs arousing suspicion of poliomyelitis or the first definite symptoms of the disease to prevent severe histochemical alterations, such as chromatolysis and loss of proteins and ribose nucleotides in the physiologically active ganglion cells. The destructive effect of the poliomyelitis virus is much more deleterious in the active, stimulated or fatigued cell than to the ganglion cell at rest. Strict rest in bed, particularly in the preparalytic stage, is imperative and should be made more effective by the administration of sedatives. Of 55 children with the premonitory meningitic signs and with positive findings in the cerebrospinal fluid and of additional 10 patients with adynamia, mild disturbances of innervation or reflex disturbances but with maintained motility, 39 received sleep therapy and 26 did not. The depth of sleep was so regulated that the children always could be awakened. The children were kept in a quiet, dark room. Transition from preparalysis to paralysis occurred in 4 of the 39 treated and in 5 of 26 untreated patients, a ratio of one-fifth in the untreated as compared to one-ninth in the treated. Because of the small number of cases this difference may not be statistically significant, but it has at least a certain "probability value." With respect to the course of the paralysis during the acute phase, 4 of 24 untreated children were improved, 13 were unchanged, and 7 became worse; 9 of 23 treated children were improved, 12 were unchanged, and 2 became worse. Control therapeutic trials by many observers on large alternating numbers of patients are suggested.

Nordisk Medicin, Stockholm

49:831-860 (June 12) 1953. Partial Index

Transvestitism (Eonism): Hormonal, Psychiatric and Surgical Treatment of Case. C. Hamburger, K. Stürup and E. Dahl-Iversen.—p. 844.
*Prefrontal Lobotomy: After-Examination of 125 Patients. J. Kryger and N. A. Thorn.—p. 848.

Prefrontal Lobotomy: Follow-Up of 125 Patients.—Prefrontal lobotomy according to Freeman and Watts' standard method was done between 1943 and 1951 in 125 patients from 16 to 78 years of age. The results did not equal those reported by Freeman and Watts; 2.5% were socially reinstated, 18% were discharged, and 38% were more easily managed. Kryger and Thorn stress the importance of psychiatric follow-up for the best development of the possibilities created by the intervention and ascribe their less satisfactory results to the lack of highly trained personnel to provide adequate psychiatric follow-up.

Philippine Medical Association Journal, Manila

29:199-272 (May) 1953. Partial Index

Maternal Morbidity and Mortality in Philippine General Hospital, from July 1, 1945, to December 31, 1951. H. A. Sison.—p. 199.
Health is our Wealth. J. Salcedo Jr.—p. 212.
Medicine in Philippines. V. A. Tan.—p. 218.
The Philippine Medical Association. A. S. Fernando.—p. 223.
Medical Problems Ahead. A. S. Fernando.—p. 236.

29:273-320 (June) 1953

Case Report on Agnogenic Lymphoid Metaplasia of Spleen. A. G. Sison, E. Stransky, J. Silva and others.—p. 273.
Further Contribution to New Type of Hemolytic Anemia: (Stransky-Regala-Type). E. Stransky.—p. 282.
Hair Concretions Seen in the Philippines. S. A. Simuangco.—p. 285.

Practitioner, London

171:1-116 (July) 1953. Partial Index

Neurotropic Viruses: With Particular Reference to Poliomyelitis. A. J. Steigman.—p. 5.
Parkinsonism and Its Management. H. Miller.—p. 15.
Cerebral Palsy in Childhood. W. S. Craig.—p. 21.
Intractable Pain. W. McKissock.—p. 34.
Trigeminal Neuralgia. N. G. Hulbert.—p. 40.
Occupational Diseases with Neurological Symptoms and Signs. D. Hunter.—p. 48.
Biological Approach to Psychology. R. J. S. McDowall.—p. 59.

Presse Médicale, Paris

61:941-958 (June 27) 1953

Treatment of Basedow's Disease with Radioactive Iodine. Gilbert-Dreyfus, Ambrosino, Zara and Triantaphyllidis.—p. 941.
*Radiological Aspects of Lesions of Pulmonary Tuberculosis Treated with Streptomycin. L. Dubarry.—p. 943.
Note on Certain Aspects of Pharmacodynamic Action of Adrenochrome Monosemicarbazone (A.M.S.C.). M. Bagros, J. Marcovici and S. Despax.—p. 945.
Epidemic Hemorrhagic Fever in Korea. A. Plichet.—p. 946.

Radiological Aspects of Pulmonary Tuberculous Lesions Treated with Streptomycin.—Radiological examination is a reliable guide to the use of streptomycin in several forms of pulmonary tuberculosis, but not in all. Radiographs sometimes show improvement in apical and cavitary lesions, while cultures remain positive. Therapeutic indications in such cases are hard to determine, and the increased well-being of the patient makes him reluctant to submit to collapse therapy. In two of the author's patients, however, cultures that had been persistently positive after streptomycin therapy in spite of apparently normal lung pictures promptly became negative when a pneumothorax was instituted. Bacteriological examination thus becomes of paramount importance in evaluating the effects of treatment in patients showing radiological improvement after the administration of streptomycin. Similar problems are apt to arise in connection with the use of other antibiotics. Permanent closure of cavities is sometimes, though rarely, secured by antibiotic therapy. Elderly patients and those in poor general condition (e. g., alcoholics) for whom surgical treatment may be dangerous should, therefore, be given streptomycin, the efficacy of which is not reduced by advanced age or chronic alcoholism provided the cavities are not unduly old or large.

Proceedings of Royal Society of Medicine, London

46:407-472 (June) 1953. Partial Index

Diverticulitis. O. V. Lloyd-Davies.—p. 407.
Infantile Hemiplegia. W. McKissock.—p. 431.
Management of Tuberculous Bacilluria. J. C. Ross.—p. 434.
Steatorrhoea in Oesophago-Gastric Surgical Practice. R. H. F. Brain.—p. 438.
*Radioactive Gold in Malignant Effusions. J. Walter.—p. 466.

Radioactive Gold in Malignant Effusions.—Walter records his experience in attempting to control the reaccumulation of malignant exudates in the abdominal and thoracic cavities by radioactive gold. The radioactive gold, Au^{198}, is used in the colloidal form. The administration was by means of funnel and tubing. After the injection, the wound is sealed with collodion and gauze, and the patient is rotated, first on one side, then on the other, then head down, and then on his face, so as to distribute the radioactive fluid as uniformly as possible throughout the cavity. These turning maneuvers are continued at intervals in the ward for the next two hours. Later on the same day, a physical survey of the patient is made, with a Geiger counter, and the distribution of radioactivity is charted. There is always the possibility of finding a "hot-spot" due to loculated fluid that might lead to dangerously high local dosage; in this case, it might be judged advisable to withdraw radioactive fluid. Only one case has given anxiety in this way, but a repeat survey half a day later showed that the distribution had evened itself. Radiation reactions were mild. In 6 of 16 intraperitoneal injections, some abdominal pain with vomiting or diarrhea developed. Of four patients receiving intrathoracic injections, one had some pain. These reactions were never severe. In 8 of 15 patients who received the radioactive gold intraperitoneally no worth-while clinical effect was obtained, and 5 died within a short time. In four of the eight, considerable masses were palpable in pelvis or abdomen; it seems logical to expect poor results from a superficial form of treatment in such cases. In the seven cases in which a measure of success was achieved, reaccumulation of fluid has been controlled for periods of from 2 to 13 months so far. Control was achieved in only one of the four thoracic cases. The author suggests that radioactive gold might be used prophylactically in cases in which malignant cells are accidentally spilled at operation, as in cases of rupture of an ovarian cyst. Radioactive gold instilled intraperitoneally at the end of operation, or soon after, might have a decisive effect in eliminating early seedlings. He observed a case in which a little pseudomyxomatous jelly was found in the pouch of Douglas; 135 mc. of radioactive gold were instilled, and there has been no clinical recurrence for nearly two years.

Rev. Asociación Médica Argentina, Buenos Aires

67:89-134 (April 15-30) 1953. **Partial Index**

Pneumoconiosis: I. Clinical Study in Relation to Functional Examination of Respiratory Tract; II. Experimental Pathology of Pneumoconiosis; and III. Pretended Protective Action of Aluminium in Preventing Pulmonary Silicosis. E. A. Pedace, A. E. Bachmann and M. S. Dreyer.—p. 89.

*Lack of Deferent Ducts: Four Cases. A. Trabucco and E. B. Bottini. —p. 118.

Lack of Deferent Ducts.—Of 400 men with azoospermia, 4 (1%) were found to have a congenital lack of the deferent ducts. These men were between the ages of 31 and 42 and complained of conjugal sterility. Together with total lack of deferent ducts, there was a total or a partial lack of the epididymis and, frequently, absence of the seminal vesicles. The posterior urethra and the verumontanum were normal. The diagnosis was suggested by a total azoospermia in the presence of normal size testes. The spermatogenesis is normal, as shown by a biopsy. There is no epididymis. The amount of semen eliminated varies between 0.5 and 1.5 cc. The diagnosis is verified by surgery. The four cases of this report are the only ones in the literature in which the abnormality was discovered while attempting to cure conjugal sterility of the patients. In the cases reported in the literature, the frequency of the abnormality is 0.5%, and the abnormality was observed during attempts of ligation of the deferent ducts for the purpose of either sterilizing the patients or preventing epididymal infection after endoscopic prostatectomy.

Schweizerische medizinische Wochenschrift, Basel

83:667-686 (July 18) 1953. **Partial Index**

Some Actual Problems of Accident Medicine in the Field of Ophthalmology, Based on Experiences of the Swiss Accident Insurance Institute. F. Lang and J. Schürmann.—p. 667.

*Tuberculosis of Tonsils and Tuberculous Lymphoma of Neck. G. E. Stiefel.—p. 671.

*Experimental Contribution to Thrombin Therapy of Acute Gastric Hemorrhage. C. Usteri, M. Matter and F. Koller.—p. 674.

Tuberculosis of Tonsils.—Between 1941 and 1950, the tonsils were removed from 9,294 patients admitted to the Canton Hospital in St. Gallen, Switzerland. Microscopic examination of the removed specimens revealed unilateral or bilateral tuberculosis of the palatine tonsils in 240 patients, tuberculosis of the pharyngeal tonsils in 5, and tuberculosis of all three tonsils in 8, a total incidence of 253 (2.74%). In 410 of the 9,294 patients, clinical signs of unilateral or bilateral tuberculosis of the lymph nodes of the neck were observed at the time of the tonsillectomy, and three additional patients had open pulmonary tuberculosis. In these three and in 145 of the 410 patients, at least one of the tonsils was affected by tuberculosis. In the remaining 8,881 patients, tuberculosis was observed by chance in 105. Thus of the 253 (148 + 105) patients tuberculosis of tonsils occurred in three-fifths of patients with cervical lymphoma and in two-fifths of the patients without any clinical sign of tuberculosis. Routine examination of all removed tonsils for tuberculosis is suggested by these impressive data. Of the 253 patients with tuberculosis of the tonsils, 100 (39.2%) were males and 153 (60.8%) were females. The average age of the male patients was 15 years, and of the female patients 20 years. Of 117 patients with tuberculosis of the tonsils to whom a questionnaire could be sent 5 to 10 years after their tonsillectomies, an answer was received from 107. Eight (7.5%) of these 107 had tuberculosis. Exacerbation of the tuberculosis did not occur after the tonsillectomy in any of the patients. Sixty-six of the 107 patients had a cervical lymphoma at the time of the tonsillectomy, and in 18 a cure was obtained without any treatment in addition to tonsillectomy. In the remaining patients puncture or excision of the lymphoma was required, and in some the pharyngeal tonsils, which had been likewise infected by tuberculosis and had not been removed, acted as foci of dissemination. High altitude or sanatorium treatment before or after the tonsillectomy did not have any significant effect on the tendency to recovery in the patients with cervical lymphoma. Radical removal of the palatine, and if possible also of the pharyngeal tonsils, is indicated as a first step in the treatment of cervical lymphoma. Excision of the lymph nodes is necessary only in those patients who do not show any or only unsatisfactory tendency to regression. In patients with uncomplicated tuberculosis of the tonsils, high altitude treatment after tonsillectomy is not necessary.

Thrombin Therapy for Acute Gastric Hemorrhage.—To study the conditions of blood coagulation in the gastric juice of man, first a sample of gastric juice was examined which had been obtained by fractionated removal with a tube of the gastric contents from the stomach of patients in whom this procedure was carried out for diagnostic purposes. The same patients then were given a 2.5% Topostasin solution (5 gm. in 200 cc. of water), while the stomach tube was left in place. Topostasin is a proprietary preparation of dried thrombin obtained from cattle plasma with an addition of a phosphate buffer mixture and gelatin. Five grams of this preparation correspond to 1,500 NIH units of thrombin. The Topostasin containing gastric juice then was removed by tube 5, 10, and up to 60 minutes after the administration of the Topostasin solution. The coagulation activity of these various samples of gastric juice was tested by the addition of 0.2 cc. of a 500 mg. per 100 cc. of fibrinogen solution. In additional experiments the pH was determined by colorimetric method in other samples of the Topostasin containing gastric juice. Blood was aspirated with a graduated syringe from a vein of the patient's upper extremity and added to the various samples of the gastric juice. After mixing of blood and gastric juice the coagulation time was determined. In a control experiment the coagulation time was determined in a mixture of 0.5 cc. of sodium chloride solution and 0.5 cc. of blood. In a final series of experiments the blood coagulation in the gastric juice was determined before and after the oral administration of phosphate buffer mixture, the Topostasin solution, and milk. Results showed that blood coagulation is considerably delayed or even impossible in gastric juice of normal acidity and particularly of hyperacidity associated with ulcer. By ingestion of milk or phosphate buffer the pH of the gastric juice is shifted towards the neutral point, and thus the blood coagulation is favored. Blood coagulation occurs most rapidly if thrombin combined with phosphate buffer (in the form of Topostasin) is administered. The effect of the thrombin-phosphate buffer mixture on coagulation continues up to one hour. Repeated ingestion of this mixture (alternating with milk) is most effective for blood coagulation and, therefore, hemostasis in acute gastric hemorrhage.

BOOK REVIEWS

Ophthalmologic Diagnosis. By F. Herbert Haessler, M.D., Professor of Division of Ophthalmology, Marquette University School of Medicine, Milwaukee. Cloth. $8. Pp. 387, with 151 illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2, 1953.

This new work presents a unique approach to ocular diagnosis. It could not serve as the sole textbook for an undergraduate student, since treatment is ignored, but, for the postgraduate student or resident in ophthalmology, there is served in palatable form a well-written and most informative treatise on the art of diagnosis, with many suggestions that should prove invaluable. Unlike most modern textbooks, it has no photographs or classical illustrations and has only a few diagrammatic drawings. In no sense a catalog of all known ophthalmological diseases, it is truly a "clear and concise road map to ophthalmology." In masterful fashion the author presents a philosophy of diagnosis that should be entertaining and instructive to the trained ophthalmologist as well as to the novice. The first few chapters contain a rather brief survey of fundamental principles that are elaborated on in subsequent chapters. The advantage of dividing the material in this manner is debatable, since it makes for some repetition. There has been, however, no casual compilation of chapters; there was a carefully considered plan. The material is accurate, and the volume can be highly recommended to anyone concerned with ophthalmologic diagnosis.

Natural History of Infectious Disease. By Sir Macfarlane Burnet, M.D., F.R.S., Director of Walter and Eliza Hall Institute, Melbourne. Second edition. Cloth. $4.50. Pp. 356, with 13 illustrations. Cambridge University Press, 32 E. 57th St., New York 22; Bentley House, 200 Euston Rd., London, N.W.1, 1953.

In this edition, the author recognizes and recounts the revolution that has occurred in the problems of infectious disease since the book was first written 20 years ago. The material presented is divided into five general parts. The first part deals with biological considerations, the second with the infecting microbes, and the third with defense mechanisms, including the chemical as well as the cellular basis for immunity. The fourth section considers the epidemiological factors, including the control of infectious disease, and the fifth section is concerned with some of the important infectious diseases. This is truly a remarkable book of its kind. The author has the ability to present complex subject matter with refreshing simplicity. Although this is not a reference or a textbook, any student who is beginning a course in bacteriology would do well to read it, and anyone who is interested in infectious diseases will find it valuable.

Ballistocardiography: The Application of the Direct Ballistocardiograph to Clinical Medicine. By William Dock, B.S., M.D., F.A.C.P., Professor of Medicine, State University Medical Center at New York City, Harry Mandelbaum, M.D., F.A.C.P., Associate in Medicine, Jewish Hospital of Brooklyn, Brooklyn, N. Y., and Robert A. Mandelbaum, B.A., M.D., Assistant in Medicine, Jewish Hospital of Brooklyn. Cloth. $9.50. Pp. 293, with 153 illustrations. C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, 1953.

This concisely written monograph on ballistocardiography by a group that has pioneered the use of a simple, velocity-type, portable ballistocardiograph is most welcome, because there is still considerable controversy and confusion on this subject. Since 1948, the authors have made numerous ballistocardiograms on normal and abnormal subjects under a variety of different circumstances. They have accumulated sufficient data to make possible some general statements on the value of the ballistocardiogram in diagnosis and prognosis. In interpreting the ballistocardiogram, the authors indicate the necessity of considering the ballistocardiogram as only part of a medical examination. The following quotation from page 103 points out the fallacy of making a diagnosis from the ballistocardiogram alone: "Trivial and transient disturbances of the circulation may produce abnormal tracings; severe heart disease, especially when diastolic pressure is low, may be present with normal tracings of low amplitude. If an expert, on the basis of tracings alone, even hints that the myocardium is diseased or is healthy, he is not helping the physician who refers the case and he may be harming the patient."

No previous knowledge of the subject is assumed, so the entire field of ballistocardiography is covered, from a discussion of physical and physiological principles to its application in disease. There is also a chapter relating the results of the authors' investigations on the effect of smoking on the ballistocardiogram. Many excellent illustrations supplement a well-written text. This is one of the best monographs so far published on ballistocardiography. It should be an extremely useful reference book not only for the cardiologist but for any physician who has the desire to learn about this new and interesting diagnostic aid.

The Action of Insulin. By Niels Haugaard, Ph.D., Assistant Professor of Physiological Chemistry in Research Medicine, School of Medicine, University of Pennsylvania, Philadelphia, and Julian B. Marsh, M.D., Assistant Professor of Physiological Chemistry, Graduate School of Medicine, University of Pennsylvania. Publication number 194, American Lecture Series, monograph in American Lectures in Endocrinology, edited by Willard O. Thompson, M.D., Clinical Professor of Medicine, University of Illinois College of Medicine, Chicago. Cloth. $3.75. Pp. 113, with 8 illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

This new monograph with an introductory chapter by Dr. William C. Stadie presents an excellent summary of the problematic concepts and known facts regarding the properties and action of insulin. The nature and probable pathways of intermediary metabolic reactions that are involved are concisely reviewed along with the chemistry of the hormone and its physiological action. The relationships encountered in experimental diabetes and the influence of other hormones on the action of insulin are carefully outlined. Certain speculative clinical aspects of its action are included. The final chapter deals with a discussion of what is known and what is unknown concerning the biochemical mechanism of insulin action on cellular metabolism. Each chapter except the first is followed by a list of references, which are annotated in the text. A general index is placed at the end. The printing and flexible binding are appropriate for a book of monograph size. No typographic errors were found. The book will be useful to all advanced students and investigators interested in the action of hormones in general and that of insulin in particular.

Elsevier's Encyclopædia of Organic Chemistry. Series III: Carboisocyclic Condensed Compounds. Volume 12B: Naphthalene. A. Compounds Containing One Naphthalene Nucleus: Carboxylic Acids (CO_2H in Side Chain). Founded by E. Josephy & F. Radt. Edited by F. Radt. Cloth. $66; $58 to series subscribers; $50 to set subscribers. Pp. 3261-3963. Elsevier Press, Inc., 402 Lovett Blvd., Houston 6; 155 E. 82nd St., New York 28; 118 Spuistraat, Amsterdam C, Netherlands; Cleaver-Hume Press, Ltd., 42A S. Audley St., London, W.1, 1953.

This volume in this extensive and important chemical series covers the carboxylic acids that contain the naphthalene skeleton. Such better-known compounds as the naphthylacetic acids, santonin, carboxylic acid derivatives of decalin, and tetralone are included in a host of organic compounds that are lesser known (to the physician). Wherever possible, data are given concerning the physiological and biological properties of these substances. The literature through 1944 and the structure of compounds as determined up to the beginning of 1953 are included.

These book reviews have been prepared by competent authorities but do not represent the opinions of any official bodies unless specifically so stated.

Diseases of the Digestive System. Edited by Sidney A. Portis, B.S., M.D., F.A.C.P., Associate Clinical Professor of Medicine, University of Illinois Medical School, Chicago. Third edition. Cloth. $20. Pp. 1119, with 274 illustrations. Lea & Febiger, 600 S. Washington Sq., Philadelphia 6, 1953.

Knowledge of the digestive tract and its functional and organic disorders has advanced greatly in the last decade. Refined methods of study have clarified much of the darkness that surrounded the physiology and pathology of the system. An appraisal of the various disorders arising in the digestive canal requires a review of a vast amount of important literature that reflects the opinions of a large body of experienced observers.

This edition contains the contributions of 57 acknowledged authorities and reflects the increasing emphasis given to psychodynamics and the psychogenesis of gastrointestinal disorders. The order of the book follows a logical progression. Following a historical review, charts on the anatomy and physiology of the digestive system include recent advances in the dynamics of digestion. Particularly worthy are the discussions on the neurological aspects and consideration of the emotional factors that underlie the majority of everyday digestive complaints. Chapters on allergy, the anemias, and a résumé of dietetic concepts represent modern interpretations. After a well-documented section on roentgenology, chapters on the disorders of the various parts of the system, from the mouth to the anus, are presented by recognized authorities. The chapter on peptic ulcer by Palmer is especially noteworthy because of its broad, yet detailed, consideration of this disorder of modern civilization. The discussion of diseases of the extrahepatic biliary passages and the one on diseases of the liver by Portis stand high in the current literature regarding the gastrointestinal tract.

The last seven chapters deal with gastrointestinal manifestations of other diseases, including arthritis, with disorders of the endocrine system and the relationship between the gastrointestinal and cardiovascular systems. Two chapters by Leiter on alkalosis and renal disease are excellent. This volume has only a brief reference to esophageal varices, a condition that is appearing with distressing frequency. The clinical picture of a bleeding varix may baffle the attending physician as a diagnostic challenge, and the difficulty of finding an adequate solution for the control of bleeding may distress him even more.

There can never be any substitute for a careful and logical record of the patient's disorder. The trend in teaching today tends to emphasize technical procedures with insufficient attention to the patient as a whole. A chapter on the art of taking a history and the technique of carrying out a physical examination would be a helpful addition to this book. This edition, edited by Portis, is a classic. The interests of the patient will be greatly served and much time will be saved for the specialist, the general practitioner, and the student if they have within easy reach a copy of this superb presentation.

British Pharmacopœia 1953. Published under direction of General Medical Council pursuant to Medical Council Act 1862 and Medical Act 1950. Official from 1 September 1953. [Eighth edition]. Cloth. 50s. Pp. 894, with 12 illustrations. Published for General Medical Council by Pharmaceutical Press, 17 Bloomsbury Sq., London, W.C.1, [1953].

The latest edition of the British Pharmacopeia, which became official Sept. 1, 1953, is unquestionably an improvement over previous editions. For the first time English has been substituted for Latin in the main titles of the monographs. The various dosage forms of a basic drug are all listed in sequence. Thus tablets of digoxin appear immediately after digoxin instead of being grouped with all other tablets of official substances. Usual doses are given in metric units, with the apothecary equivalents indicated only for older drugs. The 150 deletions are composed largely of botanicals that are difficult to standardize and have been largely supplanted by other newer drugs. Ergot has been deleted, but ergometrine maleate and ergotamine tartrate have been added. Other deletions involve agents that have been replaced by less dangerous drugs. There is a total of 62 newly admitted substances.

Less striking on casual inspection, but significant, are the changes in monographs for substances in the 1948 edition. For instance, assays have been added in many cases. Molecular weights were recalculated from the 1951 Atomic Weight Table. The appendix on biological assays and tests presents the biometrical principles of assay, with descriptions of the designs of assay for various official substances. In the introductory section there is a list comparing the titles of monographs in the B. P. and the titles for the corresponding drugs in the International Pharmacopeia, first edition, volume 1.

Differential Diagnosis of Common Diseases of the Eyeground. By Paul Tower, M.D. Cloth. $10. Pp. 243, with 129 illustrations. Grune & Stratton, Inc., 381 Fourth Ave., New York 16, 1953.

This book consists primarily of an atlas of fundus photographs, with accompanying chapters elaborating on the differential diagnosis of various changes in the fundus oculi and some discussion of the literature dealing with these changes. The illustrations are black and white, and therefore frequently fail to convey to the inexperienced or beginning ophthalmologist an accurate concept of the true appearance of the pathological fundus. The text is for the most part satisfactory, and the illustrations are adequate in number. To one with some training in ophthalmoscopy, the book should prove useful.

Encyclopedia of Chemical Technology. Volume 10: Pentacene to Polymethine Dyes. Edited by Raymond E. Kirk, Head, Department of Chemistry, Polytechnic Institute of Brooklyn, Brooklyn, N. Y., and Donald F. Othmer, Head, Department of Chemical Engineering, Polytechnic Institute of Brooklyn. Assistant editors: Janet D. Scott and Anthony Standen. Cloth. Subscr. price, $25 per volume. Pp. 976, with illustrations. Interscience Publishers, Inc., 250 Fifth Ave., New York 1; 2a Southampton Row, London, W.C.1, 1953.

THE JOURNAL reviews of the first nine volumes have indicated the interest that this encyclopedia holds for physicians, although it is primarily concerned with chemical technology. The articles, even of the most technical nature, are clearly but briefly expressed. Of particular interest to the physician are discussions on perfumes, peroxides, petroleum (composition, origin, refinery processes, products, chemicals, and waxes), pharmaceuticals (product forms, research, process development, manufacturing, control, and new product development) phenols, phenolic resins and plastics, phenolphthalein, phenylenediamines, phosgene, phosphorus and phosphorous compounds, photochemistry, photoelectric cells, photography, inorganic and organic pigments, plant growth substances, plasma expanders, plasticizers, plywood, economic poisons, polyethylene, and polymers. Many other subjects are presented that may not be of such general interest to the physician, but, if he wishes to know something about allied technical fields, there is no better reference source than this encyclopedia.

Die Wissenschaft vom Traum: Ergebnisse und Probleme. Eine Einführung in die allgemeinen Grundlagen. Von W. v. Siebenthal. Mit einem Vorwort von Victor Emil Freiherr von Gebsattel. Cloth. 39.60 marks. Pp. 523, with 3 illustrations. Springer-Verlag, Reichpietschufer 20, (1) Berlin W. 35 (West-Berlin); Neuenheimer Landstrasse 24, Heidelberg; Göttingen, 1953.

Extremely well written, and fortified with 1,309 references to previous publications, this book summarizes almost everything of interest that has been written about dreams from the time of Joseph and the Pharaohs to Freud and Jung. Concerned with dreams as manifesting the experiences and aspirations of the dreamer, it should be useful in libraries devoted to psychoanalysis. The word *Wissenschaft* in the title, however, invites evaluation of the book as a work of science. In 10 lines on page 151 the author dismisses statistical methods as having limited value. Kinsey and others who have contributed substantially to the important literature on nocturnal emissions are not mentioned, and, in general, the space given to the data of experimental and physiological psychology is scanty. This book exemplifies the "preoccupation with superficially acceptable conclusions" pointed out recently by Altschule as the bane of psychiatry, and it places the present work low on the scale of scientific writing. As Altschule says, "A thoroughly sound psychiatry cannot develop until all men working in it take for granted that accumulation of valid data is of primary importance."

Histochemistry: Theoretical and Applied. By A. G. Everson Pearse, M.A., M.D., D.C.P. Cloth. $12. Pp. 530, with 113 illustrations. Little, Brown & Company, 34 Beacon St., Boston 6; J. & A. Churchill, Ltd., 104 Gloucester Pl., London, W.1, 1953.

Pathologists and other scientists who study animal tissues will be pleased with this book. It is the first important work in its field since 1949; it is logically organized, beautifully written and printed, well illustrated, and thoroughly indexed.

In the preface, the author states that the book "deals solely . . . with theoretical and practical aspects of microscopical histochemistry. I decided, at the outset, to practice all the available methods in the various fields and to modify or reject those which proved useless. . . . For each method I have provided full theoretical details and sufficient critical comments to make clear its essential purpose and range of usefulness. . . . For the methods themselves . . . [there are] technical appendices to each chapter so that the whole appendix forms a complete . . . unit." A sketch of the historical development of histochemistry from 1800 to 1952, a discussion of the chemistry of tissue fixation, and a chapter on freeze-drying technique are included. Several chapters are concerned with the identification in body tissues of such chemical constituents as proteins, nucleoproteins and amino acids, carbohydrates, lipids and lipoproteins, aldehydes and ketones, pigments, and certain inorganic constituents. Five chapters are devoted to the identification of enzymes and enzyme substrates, and a final chapter deals with physical methods of determination of tissue components. The appendix, containing directions for performing the various tests, is 80 pages long. The book can be highly recommended as a text for medical students.

The Normal Child: Some Problems of the First Three Years and Their Treatment. By Ronald S. Illingworth, M.D., F.R.C.P., D.P.H., Professor of Child Health, University of Sheffield, England. Cloth. $6. Pp. 342, with 64 illustrations. Little, Brown & Company, 34 Beacon St., Boston 6; J. & A. Churchill, Ltd., 104 Gloucester Pl., London, W.1, 1953.

This book is written by an English author with considerable background of practical experience of child study and child care in the United States as well as England. The purpose of the text is to describe the physical and developmental variations that may occur in the normally progressing child. The author stresses the importance of recognizing the considerable latitude of normalcy and the need to recognize the boundary between this and disease. There is no discussion of disease conditions of this age period.

The book is divided into four sections covering problems of feeding, of physical and developmental growth, and of behavior. The section on breast feeding is particularly thorough, with consideration of the many problems incident to initiating and maintaining this desirable method of infant feeding. Perhaps the most valuable portion of the book for factual reference is in the sections on the phases of development, where the influence of the author's association with Gesell is strongly apparent. Less extensive coverage is given the numerous disturbing but normally encountered behavior problems that are to be expected in the process of growing up. Frequent references from an extensive bibliography are included, along with treatment recommendations based on the author's own considerable practical experience. This book appears particularly useful as a handy reference on developmental appraisal and minor problems for those concerned with children of this early age period.

Nursing of Children. By Gladys Sellew, B.S., R.N., Ph.D., Professor and Chairman of Department of Sociology and Social Work, Rosary College, River Forest, Illinois, and Mary F. Pepper, A.B., R.N., M.S.N.E., Educational Director, Christ Child Home for Convalescent Children, Washington, D. C. Seventh edition. Cloth. $3.75. Pp. 349, with 60 illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaftesbury Ave., London, W.C.2, 1953.

The sixth edition of this work has been completely rewritten with a view to providing a different approach in the presentation of material. Where, formerly, material was arranged according to diseases affecting each body system, this book introduces pediatric nursing with a study of the normal growth and development of the child, followed by a discussion of the diseases common to different age groups through adolescence. This approach facilitates the adaptation of nursing care to the need of patient. Part 1, "Social Psychology of Childhood," includes chapters on the history of pediatric nursing, the child in the family and the community, and normal growth and development during the periods from infancy through adolescence, and part 2, "Illness in Infancy and Childhood," deals with general pediatric nursing procedures as well as patient care in specific diseases. Chapters are included on recreation and the nurse's role in the admission of a child to the hospital. Lists of references are given for the various sections.

This new approach to the subject of pediatric nursing is an excellent means of orientation, because it deals in fundamentals. Although the subjects in this small book are not discussed in great detail, a pattern is set in which all aspects of pediatric nursing are viewed in their proper perspective. It should be a particularly effective introductory text for students in pediatric nursing.

Effective Use of Older Workers. By Elizabeth Llewellyn Breckinridge, Executive Secretary, Illinois Committee on Aging. Foreword by Edward L. Ryerson, Chairman, Inland Steel Company, Chicago. With special contributions by Elizabeth Hatch, Curtis Gallenbeck, L. S. Barrus, and John Bromer. Cloth. $4. Pp. 224. Wilcox and Follett Co., 1255 S. Wabash, Chicago 5, 1953.

This book reports the findings of a national survey of corporate practice and thinking relating to the better use of our aging work force. The study was directed by Elizabeth L. Breckinridge under the supervision of the Committee on Human Development at the University of Chicago and was financed by a grant from the Rockefeller Foundation. The purpose of the survey was "to explore (1) the way in which some companies were using older workers more effectively than the average employer and (2) the procedures being devised to facilitate retirement and subsequent adjustment." Ninety companies, ranging from great corporations like General Motors and Standard Oil down to small shop operations, cooperated in supplying the information contained in this book. The author has arranged her material into a clear and pleasant narrative dealing successively with hiring, retiring, placement, counseling, maintenance of health and morale, preparation for retirement, and postretirement programs.

Throughout the report, the integral and significant role of the company medical officer is referred to again and again. His relationship to other departments of the company in building a program for older employees and pensioners is thoughtfully considered. In the section discussing health maintenance for the aging worker it is clear that we are merely at the beginning of a new attitude toward the older worker. Corporations are feeling their way and experimenting with pilot plant operations in this field. Nevertheless, from the data available, the author has been able to formulate some basic principles for programing company health services for this group of workers. Other attractive features of this report include several contributed papers from industrial relations executives and a good selected bibliography for those wishing additional information. This book is recommended reading for those interested in industrial medical programs, personnel work, and industrial relations.

Mechanisms of Urologic Disease. By David M. Davis, M.D. Cloth. $4.50. Pp. 156, with 6 illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaftesbury Ave., London, W.C.2, 1953.

This readable little volume gives a bird's-eye view of urologic problems with emphasis on the physiological processes and pathological changes involved. In contrast to most treatises on urology, instead of dividing the subjects on an anatomic basis, the author appropriately treats the subjects on the basis of eight different types of pathological changes. In emphasizing physiological and pathological features, he stresses the results of obstruction in the urinary tract. In fact, the chapter on obstruction is the most valuable contribution in the book.

Whether or not the results of obstruction are as influential in involving all of the various diseases in the urinary tract as the author claims might be open to question, but the importance of obstruction in the field of urodynamics is quite evident, and his treatment of the subject is very interesting. Although the subsequent chapters are too brief for serious consideration, they offer a fair review of the subjects involved. The list of references, while adequate for the purpose, is somewhat insular and includes only comparatively recent references on the various subjects discussed. Although the treatise is meant chiefly for "beginners and for those physicians who are not urologic specialists," every urologist will find it interesting reading.

Slipped Capital Femoral Epiphysis. By Armin Klein, M.D., Robert J. Joplin, M.D., John A. Reidy, M.D., and Joseph Hanelin, M.D. Publication number 153, American Lecture Series, monograph in American Lectures in Roentgen Diagnosis. Edited by Aubrey O. Hampton, M.D., Chief, Department of Radiology, Garfield Memorial Hospital, Washington, D. C. Cloth. $6.75. Pp. 130, with illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto, 2B, 1953.

The arrangement of the material in this well-written monograph is such that each phase of this problem can be adequately followed. The series of roentgenograms of normal hips, taken in both anteroposterior and lateral projections on boys and girls, should be an extremely valuable reference. Nowhere else has such a series of hip films been compiled. The method of treatment of these hips, of internal fixation and active mobilization, is highly recommended. The results recorded by the authors are somewhat better than many others report, but this is probably due to the fact that they have used the criteria for treatment outlined in this book. It is of further interest that the number of cases of bilateral hip involvement has increased as a more critical evaluation of both hips has been given. The reported 40% bilateral involvement is higher than most previous authors report but is probably still short of the actual prevalence. This is an excellent reference book and should be of great value in comparing a slipped capital femoral epiphysis with the normal hip.

Age and Achievement. By Harvey C. Lehman. Memoirs of American Philosophical Society held at Philadelphia for promoting useful knowledge, volume 33. Cloth. $7.50. Pp. 359, with 170 illustrations. Princeton University Press, Princeton, N. J., 1953.

In this notable and interesting book, a product of 20 years of careful research, the author explores the relationship between chronological age and the quality and quantity of achievement and establishes, for many fields of endeavor, the age level at which man's most creative work has been done. These cover such diverse fields as medicine, music, literature, art, philosophy, mathematics, business, statecraft, and athletic prowess. In general, an attempt has been made to assemble the best basic data on the subject of age and achievement that it has been possible to collect, and an incredible amount of factual information is presented in readily understood graphs and tables. Whatever else this book may reveal, it suggests that outstanding intellectual achievement depends far less on mere length of life or on the number of years a particular person has been working within a given field than might have been supposed. The data presented in this important book are so challenging in their implications as to exert presumably far-reaching effects on established patterns of thought in psychology and in education.

School Nursing in the Community Program. By Marie Swanson, R.N., M.A., School Nursing Consultant, Department of Public Health Nursing, National League for Nursing, New York. Cloth. $5. Pp. 543. The Macmillan Company, 60 Fifth Ave., New York 11, 1953.

"This book deals with the school child, his parents and teachers, the health department and other official and voluntary agencies, the community in which he lives and the nurse who works in his school. It portrays nursing as it is most effectively carried on in the schools today." Thus the author sets the stage for a detailed discussion of the nurse serving the school, the characteristics and relations of her position, and the community of interests within which she performs her services. The primary appeal of this volume is to nurses concerned in some way with a school nursing service. This book will probably have a marked influence on the development of school nursing in the future. It will be of secondary interest to the school administrator, the local health officer, and others responsible for the direction of nurses serving the school.

Though the nurse is the center of attention in this volume, the entire school health program is described and discussed as the setting for the nurse's services. This involves all of the persons concerned with child health in the school and the community and the cooperative relations between them and the school nurse in evolving a school health program. The five major subdivisions concern the community's part in the development and protection of children, the work of the nurse with school-age children, the nurse's part in individual pupil appraisal and assistance, the nurse's part in general health supervision and education, and work in special situations. A good index and a list of organizations and magazines make reference easier.

Cornell Conferences on Therapy. Volume Six. Edited by Harry Gold, M.D., et al. Cloth. $4. Pp. 287. The Macmillan Company, 60 Fifth Ave., New York 11, 1953.

This book presents a series of 15 conferences on therapy conducted at Cornell University Medical College by 57 participants. The conferences, each devoted to a single topic or theme, are divided into chapters presenting an edited record of the discussions and questions by the participants. The majority of the participants are members of the Cornell group, but authorities from other medical centers are also included. Some, but not all, of the conferences have already been published in the *American Journal of Medicine* or the *New York State Journal of Medicine*. A total of 76 similar conferences has also been published, partly in periodicals and partly in the five previous volumes of this book. The dialectic form of presentation is as interesting as it is instructive, and the present volume sustains the purpose of the conferences: to bring pharmacology and other essential basic knowledge into closer integration with clinical therapeutics. Sincere differences of opinion occasionally expressed reveal a critical approach to difficult problems.

Physicians in general and students of therapeutics in particular will welcome this new collection of the conferences in book form. A list of the conferences published in the preceding five volumes is included at the end. Lack of an index limits the usefulness of the book as a reference. A few minor errors occur that might have been avoided, for example, amphenicol for chloramphenicol on page 122. In some instances the use of brand in place of generic names for drugs is disappointing, e. g., Pentothal for thiopental on page 50.

Communicable Diseases: A Textbook for Nurses. By Albert G. Bower, M.D., F.A.C.P., Head of Department of Communicable Diseases, Los Angeles County General Hospital, Los Angeles, California, and Edith B. Pilant, R.N. Seventh edition. Cloth. $5.50. Pp. 640, with 83 illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaftesbury Ave., London, W.C.2, 1953.

This book has been completely rewritten in the present edition. All subjects previously covered are again included, and new material has been added. All common communicable diseases are discussed in terms of definition, etiology, pathology, incubation period, symptoms, treatment, and nursing care. Other aspects, such as differential diagnosis, immunity, and complications and sequelae, are discussed where pertinent. Early chapters are devoted to aseptic technique, care of communicable diseases in the home, and public health control of communicable disease. Each chapter is followed by a series of questions and a reference list. A glossary of medical terms is included at the end. This book will serve the student nurse as a textbook and the graduate nurse as a reference. The discussions of the various diseases are more complete than those found in many other textbooks for nurses.

QUERIES AND MINOR NOTES

HAY FEVER AND ASTHMA

To the Editor:—*1. What is the incidence of bronchial asthma as a sequel of hay fever and how can it be prevented? 2. Is the all year around method of desensitization better than preseasonal desensitization? 3. Where can one find escape from ragweed pollen in the central northeastern part of the United States? Are there any relatively pollen-free areas in Illinois, Ohio, Indiana, Michigan, or Wisconsin? 4. What are the criteria of using corticotropin or cortisone? Is corticotropin (ACTH) or the "gel" here more indicated than cortisone? 5. Does air conditioning in an isolated room afford relief? 6. Does the ingestion of alcohol aggravate the symptoms of hay fever?* *M.D. Ohio.*

Answer.—1. The exact incidence of bronchial asthma as a sequel of hay fever is not known, but the general feeling is that about 40% of patients with hay fever sooner or later develop bronchial asthma unless they receive injections of the specific extracts of the offending pollens, either trees, grasses or weeds. These injections, if given adequately and in time, will almost certainly prevent the onset of asthma in at least 95% of cases. Unfortunately, the results as regards hay fever are not quite as good. The injection method is almost certainly the only specific and valuable method of treatment other than avoidance.

2. In the experience of many, the perennial method of treatment is far better than the preseasonal. This is because the dosages can be gradually raised, and the patients can usually reach much higher amounts if the injections are given all year round than if they are hurried and crowded into three or four months preceding the hay fever season. Many patients delay reporting for their peseasonal treatment, and this results in a lack of protection because the dosage cannot be raised high enough. (There are a few allergists who insist that they get equally good results with minimal or very moderate dosages.) The perennial method is also better in that the percentage of reactions seems to be distinctly less than when treatment is hurried and the doses are increased too rapidly.

3. The amount of ragweed pollen is distinctly less in the northern parts of Wisconsin and Michigan, as well as in the central and northern parts of Canada. Ragweed is practically absent in the Gaspé Peninsula. Ragweed is abundant all through Illinois, Ohio, Indiana, and lower Michigan and Wisconsin. Ragweed is practically absent west of the Rocky Mountains and in Miami, Fla. Elevated areas like the White Mountains have less pollen than the valleys, but they are not free from ragweed. Ragweed hay fever does not exist in Europe or in other continents.

4. Corticotropin or cortisone usually does give excellent relief both for ragweed hay fever and ragweed asthma. However, in the majority of patients who receive the hyposensitization treatment, these hormones are not necessary as the hay fever symptoms can usually be controlled, if necessary, by antihistaminic drugs. The hormones are advised in some patients who have severe symptoms and who report after the hay fever season has already started. In such cases, the use of cortisone in tablet form will often give excellent and prompt relief. There are the well-known precautions, as they cannot be used in certain conditions, especially peptic ulcer, pulmonary tuberculosis, and psychosis. They must be used cautiously, if at all, in patients with high blood pressure and diabetes.

Cortisone by tablet is probably better for those who have ragweed hay fever; the ACTH-Gel, with or without cortisone, can be used for the ambulant patients who have asthma and hay fever. If asthma is violent enough for hospitalization, intravenous administration of corticotropin, 20 units in a liter of 5% dextrose in water, 3 liters a day—is advised. This can be given by the continuous drip method, and in each liter 0.5 gm. of aminophylline should be added. This method almost always gives excellent results.

5. Air conditioning affords relief for hay fever provided the patient stays in the room with the machine. Relief ceases when the patient leaves the room. Unfortunately, if the air conditioning causes too severe a drop in temperature, the patient who has a tendency for asthma is apt to have the same symptoms even though he is in the air conditioned room. Many therefore believe that air filters are better than air conditioning for patients who have asthma from pollen.

6. It is reasonable to assume that ingestion of alcohol, which is a vasodilator, may aggravate the symptoms of hay fever. The alcohol might open the nasal passages, which would then become more receptive to the aggravating effects of the pollen.

IMPOTENCE IN DIABETICS

To the Editor:—*Please discuss impotence, its mechanism, prognosis, and treatment in a young man with diabetes.*

Sal Citra, M.D., Bronx, N. Y.

Answer.—Impotence is not uncommon in nondiabetics. A specialist in this field writes, "Failure of erection or ejaculation in intact males under fifty is, I believe, always psychological, except in cases of asthenia from starvation or disease. In men over sixty such impotence is so common as to be considered normal; but even in such, I rather think it is often due basically to a psychological, not a truly hormonal, change." Obviously asthenia is common in diabetics, although neurasthenia and hypochrondria are less frequent, because the patients are concretely occupied with treatment.

The mechanism of impotence in diabetes could be due to pathological changes in the sexual glands, to alteration of the secretion of the pituitary gland, or to dysfunction of one or the other on account of the diabetic state. Against the latter cause is the fact that impotence occasionally accompanies the onset of diabetes, and against a pathological change is the fact that usually there is no obvious disease or deformity in the genital tract. The condition appears to be functional rather than organic. Against its being of neuritic origin is its usual permanence, whereas with diabetic neuritis, peripheral or otherwise, improvement is almost invariable. Further studies on the activity and production of the 17-ketosteroids in diabetics with and without potency might give new information about impotency in diabetes.

The incidence of impotence in diabetes is unknown, but it is a common symptom, even, according to writers such as Von Noorden and Isaac, reaching 53% in patients who attain a suitable age. Naunyn states that, in men with diabetes, impotence is one of the most constant symptoms. Yet it can be absent, and instead of it there may be temporarily an increased sexual desire; Von Noorden and Isaac noted the latter in only 1% of their patients. Impotence may be a premonitory symptom, but in such cases the actual date of onset of the disease is often problematical, because such early symptomatology applies to the middle-aged rather than to the young patient. It is not always the consequence of exhaustion or loss of sugar in the urine, since it occurs in well-nourished diabetics with very little excretion of sugar. Yet in only moderately severe cases, sexual capability sometimes returns when glycosuria disappears or decreases, but this is exceptional in severe cases. Atrophy of the testicles has been observed in young men. On the other hand, Griesinger observed patients in whom impotence may have been present in severe diabetes even though, at autopsy, there were abundant and actively moving sperma-

The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically so stated in the reply. Anonymous communications and queries on postal cards cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.

tozoa in the testes, thus showing that the impotency was not due to the destruction of spermatozoa. In hemochromatosis with diabetes, testicular atrophy affords a well-known anatomic basis for impotence.

Psychic factors, such as anxiety and fear of the future with respect to vision, arteriosclerosis, and gangrene, have special importance in diabetic patients. Anxiety, nerve tension, and depression are well-known factors for impotence among nondiabetics. They do not, however, seem adequate to explain the impotence seen with such frequency in young diabetic patients. Impotence in a man, however, is not invariable after 30 years of diabetes. The wife of one such man recently gave birth to their seventh child. Moreover, the wife of another man with diabetes of 34 years' duration gave birth to twins after 30 years and a seventh child after 33 years. The first man was carefully treated from onset although the second received unusual, but not such careful treatment.

The prognosis for relief of the impotence is dubious, but instances of recovery even after many years do occur. Whether these are due to psychiatric or medical therapy is uncertain. Treatment is unsatisfactory but testosterone in 25 mg. doses, injected twice weekly, has occasionally produced surprising results. This is especially true even in hemochromatosis in which atrophy of the testes is noted, together with marked diminution in the size of the prostate. The question remains, however, as to whether the improvement was due to improvement of the general physical condition or to actual relief of the impotence.

The effect of impotency on the patient psychologically far, far outweighs the physical harm. Failure to recognize the possibility of impotence and its later development undoubtedly wreck many marriages. A man will put up with the illness of his wife "for better or worse," but a woman is not inclined to overlook impotency when it develops in her husband, even though there have been children and middle life has been reached.

STERILE ABSCESS FOLLOWING IMMUNIZATION

To the Editor:—*During 15 years of pediatric practice I have encountered an occasional child in whom a sterile abscess developed after an injection of a routine immunization. I now have a patient with a history of a sterile abscess following every routine immunization injection. What can be done to prevent its recurrence?*

D. L. Weinstein, M.D., Washington, D. C.

This inquiry was referred to two consultants, whose respective replies follow.—Ed.

Answer.—Abscess formation can usually be avoided if three precautions are taken. 1. Needles and syringes should be autoclaved; boiling for at least 10 minutes may be sufficient. 2. The skin should be cleansed and disinfected, and the stopper of antigen container should be given same treatment. 3. The outside of the needle should be clean, and 0.1 to 0.2 cc. of air should follow expulsion of the antigen; a sterile abscess may be due to outside coating of needle with alum. Although only the third precaution may apply to your requirements, the other two are sometimes neglected. As a last resort fluid toxoid may be substituted for alum precipitated toxoid.

Answer.—In both fluid and alum precipitated pertussis vaccine, local and general reactions may occur. The local reactions are indurated nodules at the site of the injection that occasionally cause a migration of leukocytes to the area resulting in fluctuation and a sterile abscess. This is due to pertussis bacillus protein and endotoxins, depending on individual tissue susceptibility. In a few instances, this may be due to insoluble alum acting as a tissue irritant. Severer reactions tend to develop in older children. The injections are best given intramuscularly or deep into the subcutaneous tissue. Care should be taken to avoid depositing the vaccine immediately beneath the skin, in the upper part of the subcutaneous layer of fat, or in sites that have received previous injections. The same is true of both fluid and alum precipitated diphtheria toxoid. The reactions are accounted for mostly by hypersensitiveness to diphtheria bacillus proteins of the toxoid preparations. This sensitization is acquired through contact with the diphtheria bacillus as the person becomes older, or it may develop through previous injections of toxoid. This again becomes more marked in older persons.

Local or systemic reactions may be observed after injections of either the plain tetanus toxoid or alum-precipitated toxoid. These as a rule are never so severe since the person is not so hypersensitive to the tetanus bacillus proteins as he may be to the diphtheria bacillus proteins, despite previous contact with the tetanus bacillus. This also applies to combined immunizations. Diphtheria immunization should be preceded by a Schick test and should be given only to those susceptible after a Moloney test for sensitivity is known to be negative; if the reaction to a Moloney test is positive, immunity may be acquired by giving smaller injections over a longer period of time.

METHODS FOR STAINING EOSINOPHILS

To the Editor:—*I have been using Randolph's staining solution, which should color eosinophilic granules red and those of other leukocytes blue. I have been using either equal amounts of the two solutions or four parts of solution 1 and six parts of solution 2, and I have observed a 21 hour waiting period. Yet, I cannot differentiate the colors. What proportions do you advise me to use? I have heard about Hinkleman's solution. Which do you consider the better of the two?*

Guzman Casanova, M.D., Encrucijada, Cuba.

Answer.—The following methods are satisfactory for determination of the absolute eosinophil count:

1. Dunger's method (described in *Blood* 3:755, 1948): With this method the eosinophils are stained vividly, but precise timing is required because of the dissolution of leukocyte membranes, and the method is, therefore, convenient only with venous blood.

2. Randolph's method (*J. Allergy* 15:89, 1944): While suitable for capillary or venous blood, this method is cumbersome and does not allow as clear a distinction between eosinophils and other leukocytes as do other methods.

3. Henneman's modification of Randolph's method (*J. Lab. & Clin. Med.* 34:1017, 1949): This method employs a diluting fluid made up of 0.05 gm. of phloxine, propylene glycol, and 50 ml. of distilled water, which simplifies Randolph's technique.

4. Hinkleman's method: The solution used (0.5 gm. of yellow eosin, 0.5 ml. of concentrated formaldehyde [Formalin], and distilled water to make a total volume of 100 ml.) stains eosinophilic granules black, while other than eosinophilic leukocytes appear as shadows. This method may be used on either capillary or venous blood.

5. Rud's method (*Acta psychiat et neurol.*, supp. 40, 1947): A solution composed of 0.1 ml. of 10% magdala red, 6 ml. of acetone, 14 to 20 drops of 10% sodium carbonate, and 45 ml. of water is used. While the staining obtained is excellent, the chamber must be filled promptly and evaporation prevented.

6. Pilot's method (*Am. J. Clin. Path.* 20:870, 1950): This method employs a solution consisting of 50 ml. of propylene glycol, 40 ml. of distilled water, 10 ml. of 1% phloxine in water, and 1 ml. of 10% sodium carbonate. This is suitable for capillary or venous blood, and counting chambers may be filled at leisure and the cells counted any time within 15 minutes.

7. Manner's method (*Brit. M. J.* 1:1429, 1951): A solution containing 50 gm. of urea, trisodium citrate, distilled water to make a total volume of 100 ml., and 5 ml. of a 2% aqueous solution of phloxine is employed.

While any of the above methods is satisfactory, the last two are preferred, since they may be used on either capillary or venous blood, other leukocytes are lysed and eosinophils are easily seen, no critical time intervals must be adhered to, and these stains are easily made up. Counting chambers of large capacity (Fuchs-Rosenthal or Spiers) also simplify the procedure. With any technique, the blood cells should be counted within four hours of the time the blood is drawn.

SYMPTOMS FOLLOWING GASTRECTOMY

To the Editor:—*Ten years ago a 27-year-old man in excellent health complained of gradual loss of weight, fulness after meals, nausea, and some vomiting for several months. X-ray examination revealed a filling defect of the pylorus, no free acid even after administration of histamine, and gastroscopic signs of a few small superficial ulcerations. Because of x-ray evidence of malignancy, a subtotal gastrectomy, posterior polya type, was done. Examination of a section obtained at surgery showed grade three ulcerative gastritis. For the next six years there was a severe dumping syndrome with inability to eat eggs, cream, and very sweet mixtures. This was coupled with severe burning, which kept him up nightly and amazingly enough was occasionally relieved with aluminum hydroxide gel (Gelusil), even though he had no free acid. Vomiting of bile, which regurgitated nightly into the lower esophagus, gave relief. Normocytic hypochromic anemia developed but responded well to treatment with vitamin* B_{12} *and folic acid; he had an increase in weight and reduced upper gastric burning. X-ray examinations twice yearly have shown no abnormalities, with open stoma and fairly normal mucosa. Since he is disqualified for life insurance and it is feared that the histamine-fast achlorhydria may be a precursor of carcinoma, what information on prognosis can you give? There is no history of carcinoma in the family except for an 83-year-old father with stomach ulcers. How would you handle this case?*

M.D., Michigan.

Answer.—1. This patient will require further diagnostic work-up. Since he has a history of intolerance to "very sweet mixtures" and nocturnal burning and vomiting, there is a suggestion of vagotonic insular imbalance. An intravenous glucose tolerance test and a Hollander test would verify this. Incidentally, the Hollander test, if negative, would possibly rule out his presumed achlorhydria. Relief of symptoms with aluminum hydroxide gel (Gelusil) and his nocturnal burning suggest the presence of acid despite the fact that none has been found heretofore. His nocturnal vomitus should also be examined for acid because bile, in the presence of free acid, turns from yellow to green. If the vomitus is green, free acid is present. 2. It is the consensus among gastroenterologists that there is a fundamental relationship between chronic gastritis and carcinoma of the stomach, but no statistics are available at this time. A definite risk or age of occurrence of carcinoma in this patient cannot now be stated. 3. This man should have frequent (at least six daily) small feedings of a bland, convalescent ulcer diet. Since he apparently is sensitive to sugars, he should be allowed no free sugar. Since Gelusil has at times made him comfortable, he should take it regularly 45 minutes to 1 hour after meals and after his bedtime feeding. He should have a glass of milk and some crackers, as well as aluminum hydroxide gel, at his bedside to relieve his nocturnal burning, if it should continue. He should be given one of the anticholinergic drugs before meals and at bedtime. It is unusual that vitamin B_{12} and folic acid should improve a hypochromic anemia; however, 30 mg. of vitamin B_{12} should be given parenterally once every two to four weeks, depending on the patient's needs. This will be determined by careful serial hemograms. He should have repeated upper gastrointestinal x-ray series every three to six months and, if possible, yearly gastroscopy. His stool should be examined for occult blood frequently.

PREVENTION OF FUNGUS INFECTIONS OF FEET

To the Editor:—*Applicants for work in an industrial plant are examined in rooms where their bare feet are exposed to contact with a polished terrazzo floor. Fungus infection of the skin of the feet among these men is common. Does the above procedure spread this infection?*

M.D., California.

Answer.—According to present concepts, the danger of transmitting active or symptomatic attacks of fungus infections of the feet by walking over floors is minimal (*Arch. Derma & Syph.* 45:670 [April] 1942). Ordinary washing of the floor and routine cleanliness should be more than sufficient to take care of the problem of new infections from the floors. To reduce, as far as possible, any activation of latent infection or flare-ups, the men should wear properly fitting, well-ventilated footgear and use a standard mild dusting powder between the toes and in the socks. Routine measures for this form of prophylaxis, as well as other logical approaches, have been set forth in detail in an article entitled "Athlete's Foot" (*Hygeia* 19:522 [July] 1941 [reprinted in 1951]). Newer studies now in progress have all, thus far, supported the concept that the role of fungi in water, floors, clothing, and footgear is negligible in the production of attacks of dermatophytosis (athlete's foot). Quiescent infections flare up principally when moisture, humidity, friction, and other factors produce conditions that allow the fungi to multiply more rapidly and reduce the local resistance of the skin areas to their pathogenic action.

EDEMA OF UNKNOWN ORIGIN

To the Editor:—*In regard to the discussion of edema of unknown origin in Queries and Minor Notes, Aug. 1, 1953, I have observed three patients, all women, who had a certain type of edema while undergoing psychotherapy. The distribution of this edema was in the extremities, unilateral, and of varying intensity. Laboratory tests failed to show any deviant values. The usual diuretic regimen and use of antihistaminic preparations and thyroid extract were of no avail. Psychologically all three patients were suffering from neurotic depression with hysterical features. The swelling regularly followed a frustrating situation in which the patient's character make-up made expression of anger impossible. Instead these women became depressed. It appears that the edema is a form of weeping of the tissues similar to lachrymation or rhinorrhea. The ability of the patient to abreact his pent-up anger without any disturbance of the conscience is followed by the disappearance of the edema. In one patient an edema of the ankle vanished in about 45 minutes when under hypnosis she wept. For this reason I would suggest a careful search for neurotic depression in all patients with unexplained edema.*

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BRAIN INJURIES

To the Editor:—*In Queries and Minor Notes of Sept. 26, 1953, the question about low diastolic blood pressure in certain types of brain injury is answered as follows: "A lowered diastolic pressure is not commonly seen in persons who have had an intracranial cerebral injury and is not to be correlated with such an injury." H. E. Mock in his book, "Skull Fractures and Brain Injuries" (Baltimore, Williams and Wilkins Company, 1950, p. 704) writes that in 1929 he described a group of patients who were referred to him because of mild, persistent, postcerebral injury symptoms. Few of this group had definite physical symptoms except bradycardia and a rather persistent low diastol blood pressure, often below 60 mm. Hg. The only ot positive finding was increased spinal fluid pressure. common factor in all their histories was a short and adequate treatment without direct or indirect spinal fl drainage. Since 1929 Dr. Mock has observed many simi cases. Low diastolic pressure is also of great importance in acute intracranial injuries. The treatment of the condition is bed rest, administration of hypertonic solutions for dehydration, and, when indicated, repeated lumbar punctures.*

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